

# SERVICE MANUAL



## STEREO MICROCASSETTE DECK

# RD-XM1

EUROPE



142 329 01

## SPECIFICATIONS

Power Source . . . . .	AC 120/220V (50/60Hz)	Erase Ratio (Overall)	
Power Consumption . . . . .	20W	Fe2O3 . . . . .	More than 55dB
Recording System . . . . .	AC Bias	Metal . . . . .	More than 55dB
Erasing System . . . . .	AC Erasing	Crosstalk (with Fe2O3)	
Tape Speed . . . . .	15/16ips. $\pm 1.5\%$	Track to Track . . . . .	More than 60dB
Wow & Flutter (WRMS) . . . . .	Less than 0.09%	Channel Separation (with Fe2O3) . . .	40dB
Torque		Harmonic Distortion (K3)	
Playback . . . . .	6 – 12g-cm	Fe2O3 . . . . .	Less than 3%
Fast Forward . . . . .	15 – 25g-cm	Metal . . . . .	Less than 3%
Rewind . . . . .	15 – 25g-cm	Input Sensitivity and Impedance	
Fast Forward Time . . . . .	Less than 120sec. (C-60 cassette)	Microphone . . . . .	0.3mV/12k-ohm
Rewind Time . . . . .	Less than 120sec. (C-60 cassette)	LINE IN . . . . .	50mV/70k-ohm
Frequency Response (Overall, DOLBY : OFF)		Output Level and Impedance	
Fe2O3 (7dB band) . . . . .	50 – 8,000Hz	LINE OUT . . . . .	420mV/1.2k-ohm
Metal (7dB band) . . . . .	50 – 10,000 Hz	Headphone . . . . .	40mV/8ohm
Signal to Noise Ratio		Oscillation Frequency . . . . .	105kHz
(According to CCIR method: Weighted, DOLBY : ON)		Dimensions (W x H x D) . . . . .	220 x 70 x 140mm
Fe2O3 . . . . .	More than 47dB	Weight . . . . .	4kg (approx.)
Metal . . . . .	More than 49dB		
Signal to Noise Ratio			
(According to CCIR method : Weighted, DOLBY : OF)			
Fe2O3 . . . . .	More than 42dB		
Metal . . . . .	More than 44dB		

—Specifications subject to change without notice.—

**NOTE:** The above mentioned specifications are mainly based on the IHF measurements standard. They can therefore not directly be compared with specifications based on the DIN standard or other standards.

WM-5954

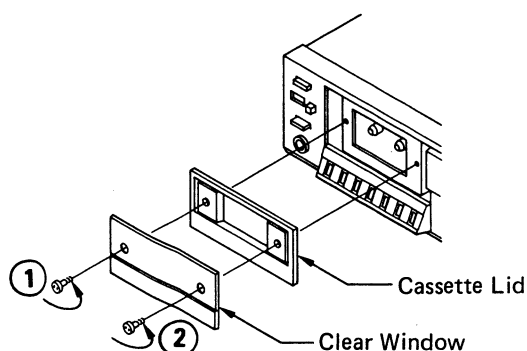
# DISASSEMBLY INSTRUCTIONS

## GENERAL REMARKS

Before disassembling the unit, spread a soft cloth or a rubber mat on the work bench to avoid scratches and grease spots. Reassemble the unit correctly noting the kinds of fastening screws and leads. Refer to the circuit diagrams and exploded views.

## CASSETTE LID REMOVAL

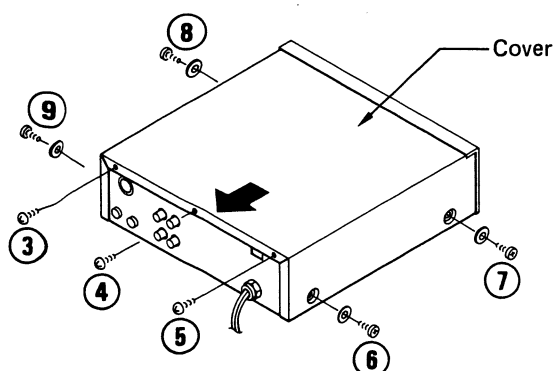
1. Insert the tweezer tips into the holes on the decorative screws (1 and 2) and remove the Cassette Lid by carefully turning the screws. Do not make any scratches on the screws.
2. Carefully handle the Clear Window to avoid scratches and stains.



3. Reassemble in reverse order.

## COVER REMOVAL

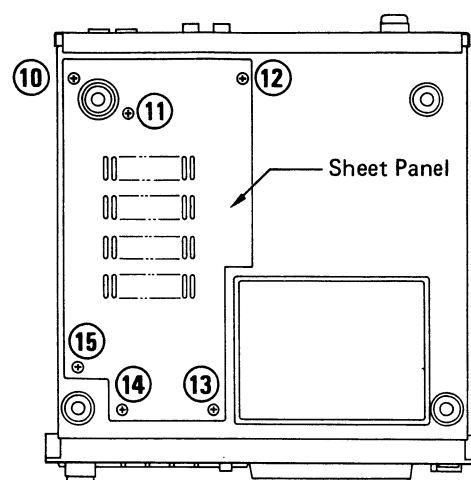
1. Remove the seven screws (3 – 9) and the four washers.
2. Remove the Cover by sliding it in the direction of the arrow as illustrated.



3. Reassemble in reverse order.

## SHEET PANEL REMOVAL

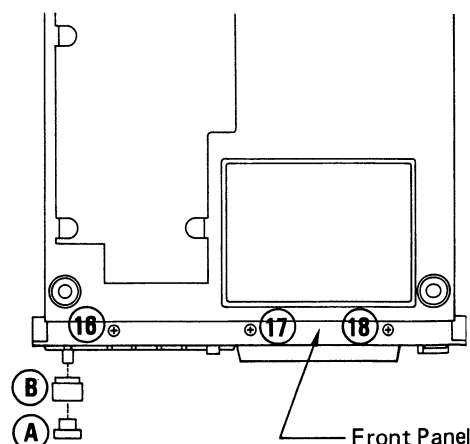
1. Turn over the unit and remove the six screws (10 – 15) fastening the Sheet Panel.



2. Reassemble in reverse order.

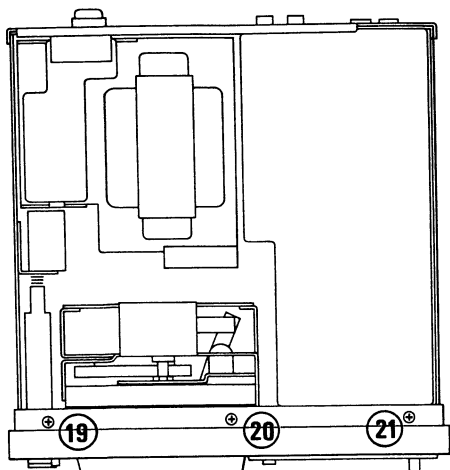
## FRONT PANEL REMOVAL

1. Remove the Cover and pull out the Input Level Control Knobs (A and B) from the unit.
2. Turn over the unit and remove the three screws (16 – 18) fastening the lower side of the Front Panel. Then, turn it over again.



3. Remove the three screws (19 – 21) fastening the upper side of the Front Panel. Then, remove the Front Panel from the unit.

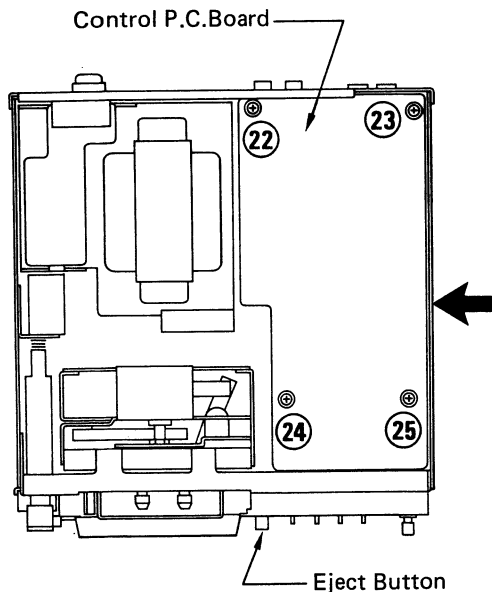
## DISASSEMBLY INSTRUCTIONS (Continued)



4. Reassemble in reverse order.

### CONTROL P.C.BOARD REMOVAL

1. Remove the Cover. Then, remove the four screws (22 – 25) and the four fiber washers fastening the Control P.C.Board.

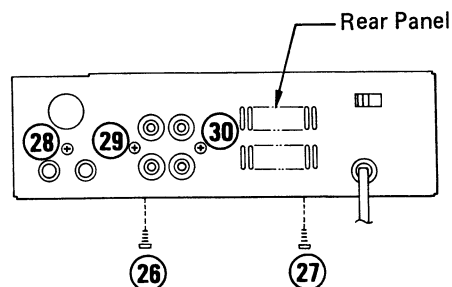


2. Remove the Control P.C.Board by lifting the arrow-indicated side, noting the lead wires.
3. Reassemble in reverse order.

### REAR PANEL REMOVAL

1. Remove the Cover and the Control P.C.Board. Then, remove the three screws (26 – 28) fastening the Rear Panel and the two screws (29 and 30) fastening the Line Jack.

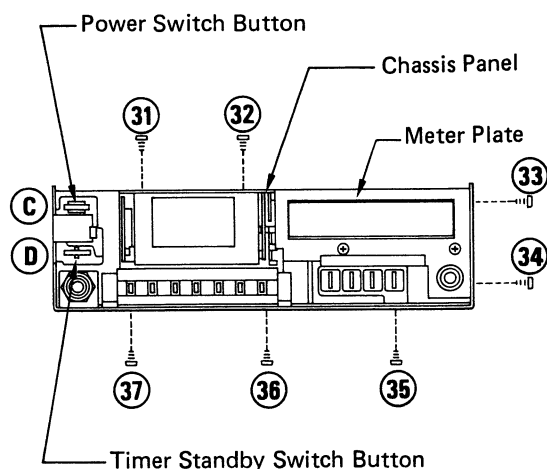
2. Hold the nuts and remove the two screws (29 and 30) because the screws are secured with the two nuts.



3. Reassemble in reverse order.

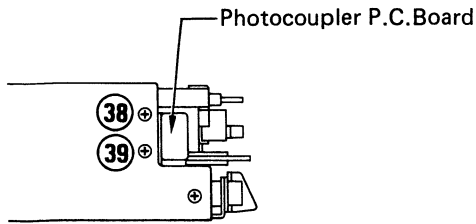
### CHASSIS PANEL REMOVAL

1. Remove the Cassette Lid, Cover, Front Panel, and Control P.C.Board by following the instructions given previously.
2. Remove the two Connectors (CN11 and CN12) from the Control P.C.Board and the two Connectors (CN2 and CN5) from the Amplifier P.C.Board.
3. Pull out the Power Switch and Timer Standby Switch buttons (C and D) from the unit.
4. Remove the nut fastening the Headphone Jack. Then, remove the seven screws (31 – 37) fastening the Chassis Panel.



5. Remove the two screws (38 and 39) fastening the Chassis Panel. Then, remove the Photocoupler Bracket.
6. Untie the lugs and bands for the lead arrangement and remove the Chassis Panel noting the lead wires.
7. Pull out the two Connectors (CN1 and CN4) for the Input Level Control from the Amplifier P.C.Board.

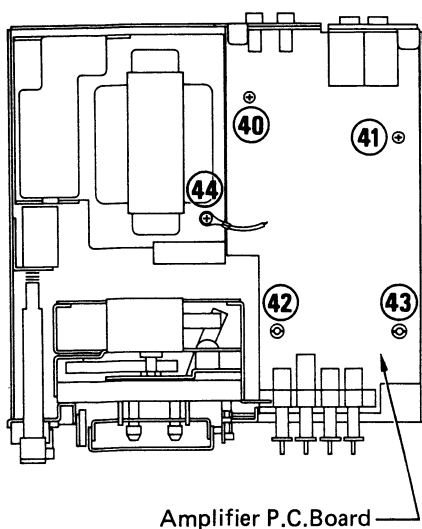
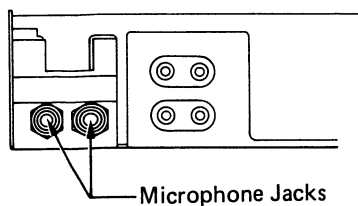
## DISASSEMBLY INSTRUCTIONS (Continued)



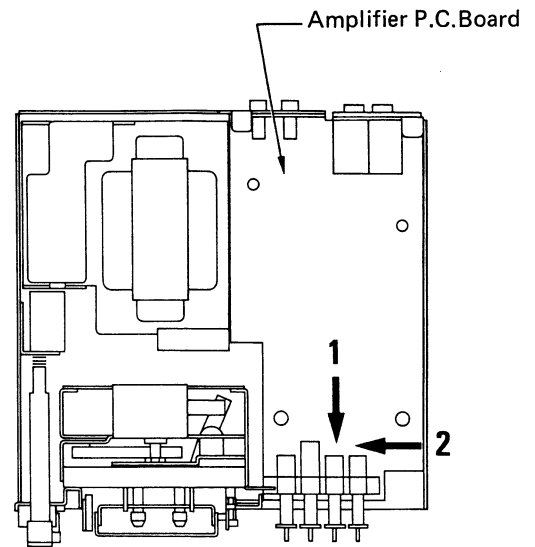
8. Reassemble in reverse order.

### AMPLIFIER P.C.BOARD REMOVAL

1. Remove the Cassette Lid, Cover, Front Panel, Control P.C.Board, Rear Panel, and Chassis Panel by following the instructions given previously.
2. Remove the nuts fastening the Microphone Jacks. Then, remove the two screws (40 and 41) fastening the Amplifier P.C.Board and the two threaded posts (42 and 43) securing the Control P.C.Board.



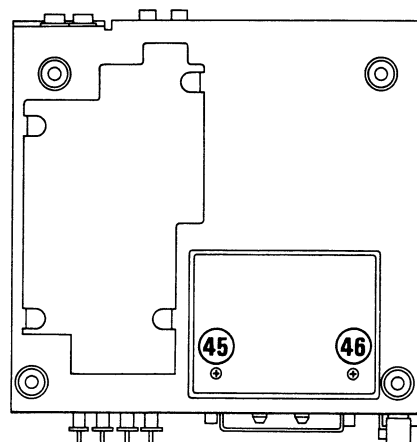
3. Remove the screw (44) fastening the Earth Terminal and pull out the four Connectors (CN3, CN5, CN7, and CN15) from the Amplifier P.C.Board and the Connector (CN8) from the Control P.C.Board.



4. Keep the Amplifier P.C.Board slightly afloat and slide it in the direction of Arrow 1. Then, remove the P.C.Board by lifting it in the direction of Arrow 2.
5. Reassemble in reverse order.

### MECHANISM CHASSIS REMOVAL

1. Remove the Cassette Lid, Cover, Front Panel, Control P.C.Board, and Chassis Panel by following the instructions given previously.
2. Remove the two screws (45 and 46) fastening the Mechanism Chassis. Then, remove the Mechanism Chassis noting the arranged leads.



3. Reassemble in reverse order.



# MECHANICAL ADJUSTMENTS

## EQUIPMENTS REQUIRED

- Phillips screwdriver
- Flat-bladed screwdriver
- Watch screwdriver
- Round-nose pliers
- Tweezers
- Microcassette tape (for tape running adjustment)
- Paint or glue
- Vernier calipers

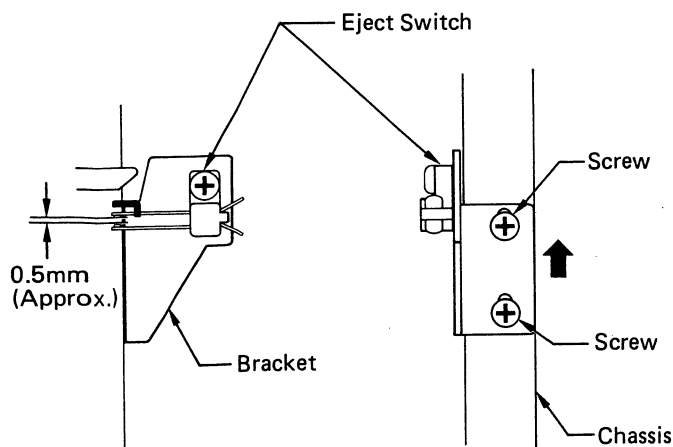
## GENERAL REMARKS

- Before adjusting the mechanism of the unit, wipe the tape contacting surfaces (Heads, Pinch Roller, Capstan, and etc.) clean with a soft cloth soaked in alcohol.
- Carefully handle the belt because grease and oil easily attach to it.

## EJECT SWITCH ADJUSTMENT

The Eject Switch is turned on, the unit is released from any modes and set in the stop mode, and then, the cassette holder opens by pressing the Eject button.

1. The clearance between the switch contacts should be 0.5mm (approx.).
2. Whenever the Eject Switch has been removed or replaced, mount the Switch to the Bracket and then the Bracket to the Chassis by pushing it in the direction of the arrow as illustrated.

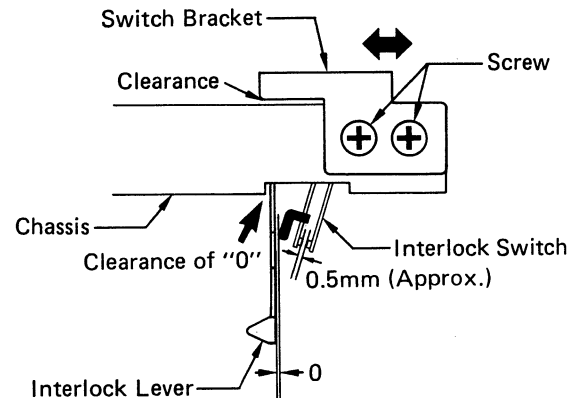


3. After that, secure the screws fastening the Switch and the Bracket with paint or glue.

## INTERLOCK SWITCH ADJUSTMENT

It can be checked whether the flaps on the side of the micro-cassette are removed or not. If the switch does not function, no recording can be made by pressing the Record button.

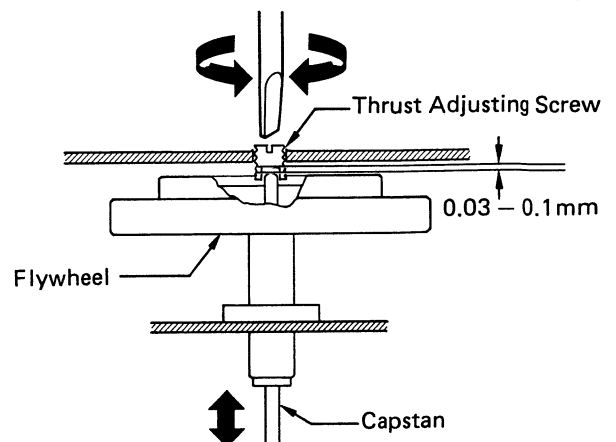
1. Loosen the two screws fastening the Switch Bracket and adjust the clearance between the Interlock Lever and the Chassis until it becomes "0" (zero) by sliding the Bracket as illustrated.



2. Perform the adjustment noting the followings:
  - \* The clearance between the switch contacts should be 0.5mm (approx.).
  - \* There should be a visual clearance between the Switch Bracket and the Chassis.
3. After the adjustment, tighten the screws and check that the switch functions correctly by loading or unloading the unit with a microcassette. Then, secure the screws with paint or glue.

## FLYWHEEL ADJUSTMENT

The clearance between the Flywheel and the Thrust Adjusting Screw should be 0.03 – 0.1 mm. Adjust the clearance by the following procedure.



## MECHANICAL ADJUSTMENTS (Continued)

1. While moving the Capstan up and down, slowly turn the Thrust Adjusting Screw clockwise to obtain the clearance of "0" (zero) between the Flywheel and the Thrust Adjusting Screw.

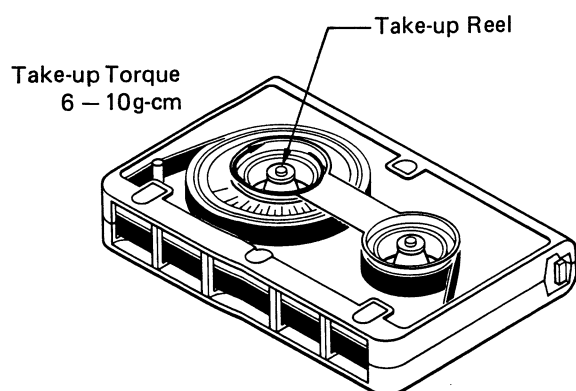
### NOTE:

Do not turn the Thrust Adjusting Screw forcibly.

2. Turn the Adjusting Screw counter-clockwise by  $30^\circ - 45^\circ$  from that position and check that the specified clearance is obtained by moving the Capstan up and down.
3. After the adjustment, secure the Adjusting Screw with paint or glue.

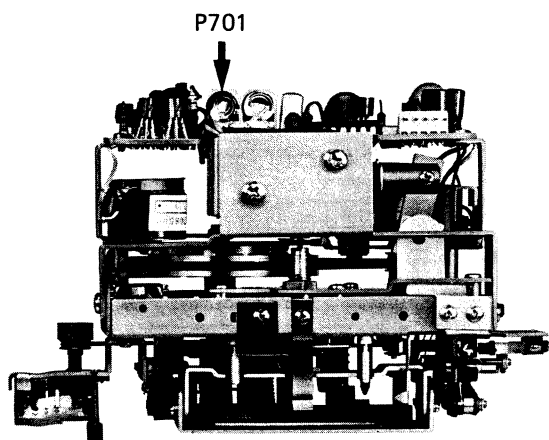
### TAKE-UP TORQUE ADJUSTMENT

1. Insert the microcassette-type torquemeter into the unit and set the unit in the playback mode.
2. Check that the meter reading is 6 – 10g-cm.



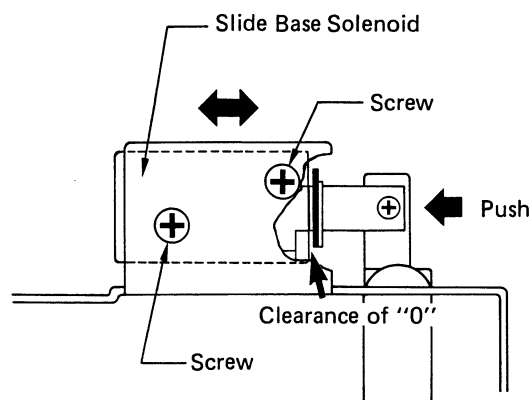
Microcassette-type Torquemeter

3. If necessary, adjust the torque by turning the potentiometer (P701) on the Motor Governor P.C.Board.



### SLIDE BASE SOLENOID ADJUSTMENT

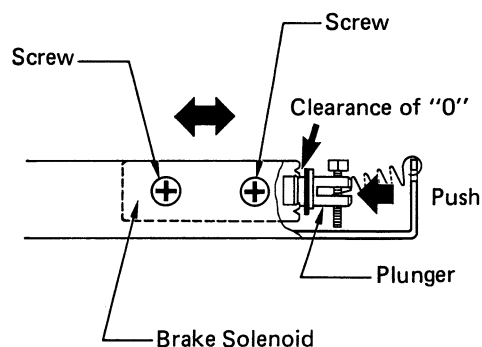
1. Loosen the two screws fastening the Slide Base Solenoid and fully push the Plunger in the direction of the arrow as illustrated.



2. Adjust the clearance between the Solenoid and the Plunger to "0" (zero) by sliding the Solenoid as illustrated.
3. After the adjustment, tighten the fastening screws and secure them with paint or glue.

### BRAKE SOLENOID ADJUSTMENT

1. Loosen the two screws fastening the Brake Solenoid and fully push the Plunger in the direction of the arrow as illustrated.



2. Adjust the clearance between the Plunger and the Solenoid to "0" (zero) by sliding the Solenoid.
3. After the adjustment, tighten the fastening screws and secure them with paint or glue.

## MECHANICAL ADJUSTMENTS (Continued)

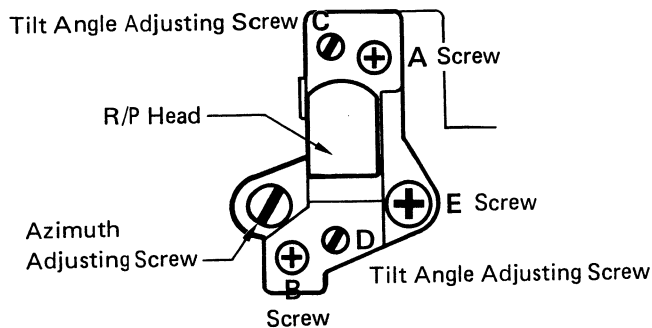
### R/P HEAD ADJUSTMENT

Whenever the R/P Head has been removed or replaced, perform the adjustment by the following procedure.

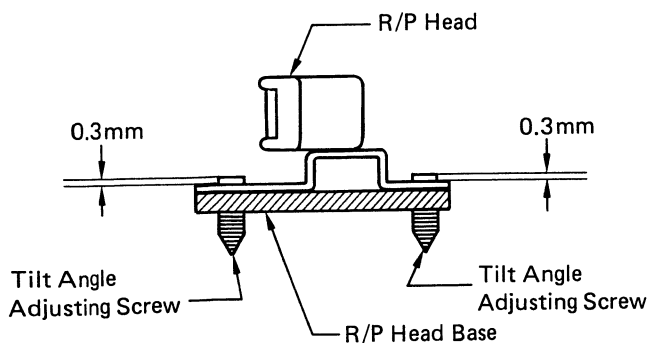
#### NOTE:

When the completed Slide Base is replaced, perform only the Head Azimuth Adjustment because the Head is factory-adjusted.

1. Mount the R/P Head to the R/P Head Base by fastening the two screws (A and B) and secure them with paint or glue.



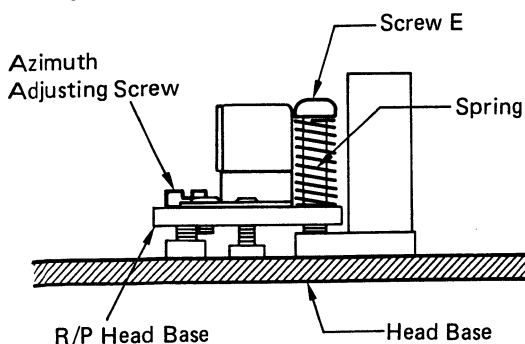
2. Mount the Tilt Angle Adjusting Screws (C and D) to the R/P Head Base, so that the screw heads protrude 0.3mm from the Base as illustrated.



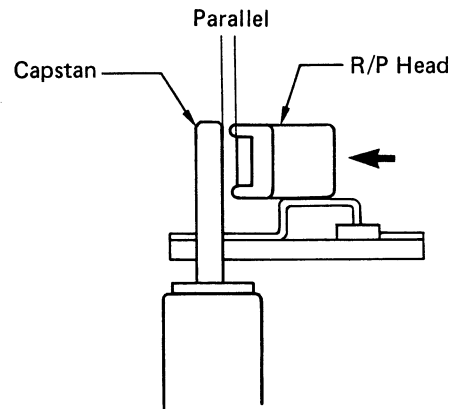
3. Mount the R/P Head Base, where the R/P Head has been mounted, to the Head Base by tightening the fastening screw E through the spring. Then, mount the Azimuth Adjusting Screw as illustrated.

#### NOTE:

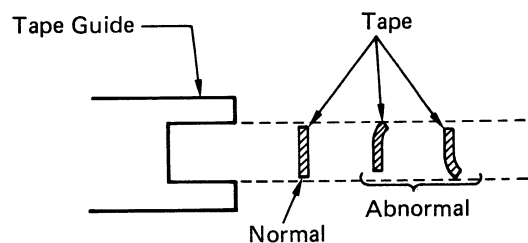
The end of the screw E should not protrude from the Head Base. After the screw is mounted correctly, secure it with paint or glue.



4. Mount the Head Base to the Slide Base by tightening the three screws and then bring the R/P Head close to the Capstan by sliding the Slide Base as illustrated.
5. Adjust the Head position by slowly turning the Tilt Adjusting Screws (C and D) until the tape contacting surface becomes parallel to the Capstan.



6. Perform the Head Azimuth Adjustment by following the procedure given in "Electrical Adjustments".
7. Insert a microcassette into the unit and play it back. Then, check that the tape is not curling along the Tape Guide of the R/P Head while the tape is being played back.



8. If necessary, repeat the Head position and azimuth adjustments by following the procedures in Items 5 and 6.

#### NOTE:

Loosen the azimuth adjusting screw to raise the Head.

# ELECTRICAL ADJUSTMENTS

## EQUIPMENT REQUIRED

- VTVM (2 sets)
- Frequency Counter
- Audio Signal Generator
- Attenuator
- Dummy Load (47 k-ohm)
- Dualtrace Synchroscope
- Test Tapes
  - \* 3kHz Test Tape (Example: OLYMPUS OA-A212) for Tape Speed Adjustment
  - \* 5kHz Test Tape (Example: OLYMPUS OA-W221) for Head Azimuth Adjustment
  - \* 1kHz and 10kHz Test Tapes (Example: OLYMPUS OA-F311) for Playback Frequency Response Adjustment
  - \* 315kHz Test Tape (Example: OLYMPUS OA-L213) for Playback Sensitivity Adjustment
- Test Tapes for Recording and Playback Operations
  - \* Normal Tape (Example: TDK AD MC-60)
  - \* Metal Tape (Example: OLYMPUS OA-B311)
- Alignment Tool

**Before the Electrical Adjustments, set the unit and the measuring instruments as follows:**

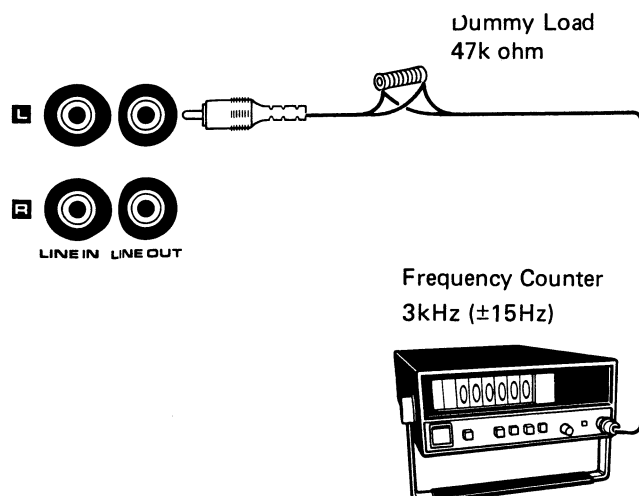
- \* Timer Standby Switch ..... OFF
- \* DOLBY NR-HX Switch ..... OFF
- \* Tape Select Switch (Normal) ..... ON
- \* Input Select Switch ..... LINE
- \* Input Level Control ..... Maximum
- \* Audio Signal Generator Output ..... 1kHz, 0dB (1V)

### NOTE:

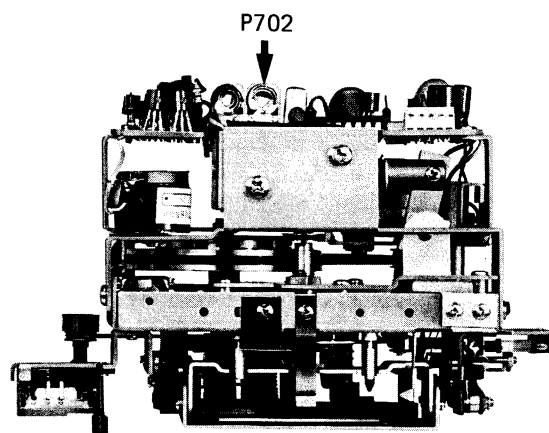
Perform the Electrical Adjustment in the order as described in this manual.

## TAPE SPEED ADJUSTMENT

1. Remove the Cover from the unit and connect the frequency counter to the left or right channel LINE OUT as illustrated. Then, insert a 3kHz test tape (Example: OLYMPUS OA-W212) into the cassette holder.



2. While playing back the test tape, adjust the potentiometer (P702) on the Motor Governor P.C.Board until the frequency counter reads 3kHz (±15Hz).



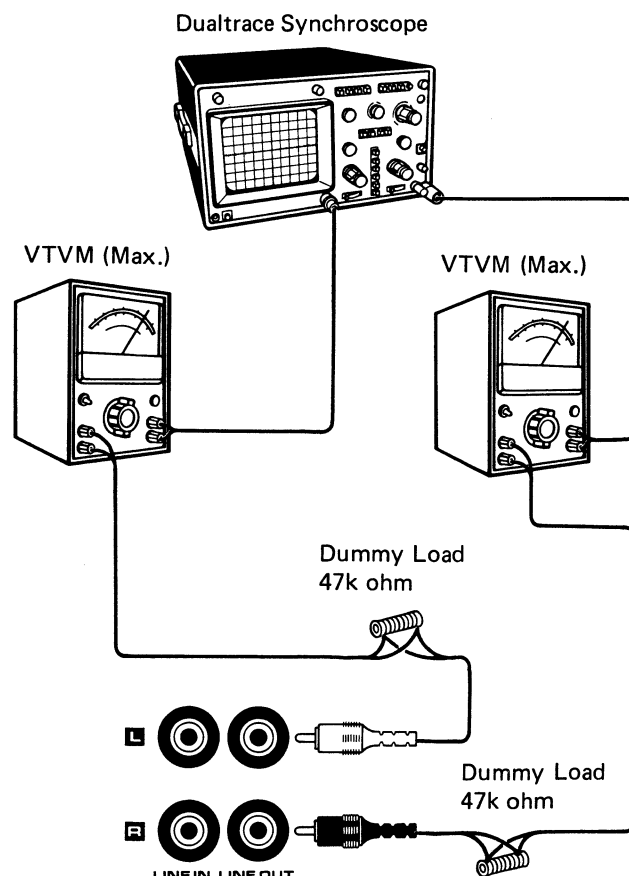
## HEAD AZIMUTH ADJUSTMENT

1. Connect the VTVM (2 sets) and the dualtrace synchroscope to both channel LINE OUT as illustrated. Then, set the dualtrace synchroscope as follows:

- \* MODE ..... CHOP (chopped)
- \* SOURCE ..... INT (internal), CH1 or CH2
- \* SWEEP MODE ..... AUTO (automatic)

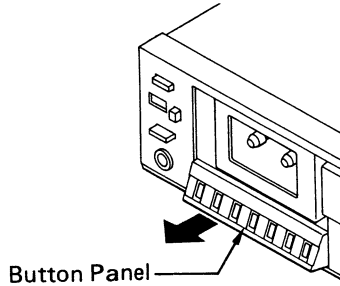
### NOTE:

Adjust the field on the synchroscope with the VOLT. ADJ. and TIME ADJ.

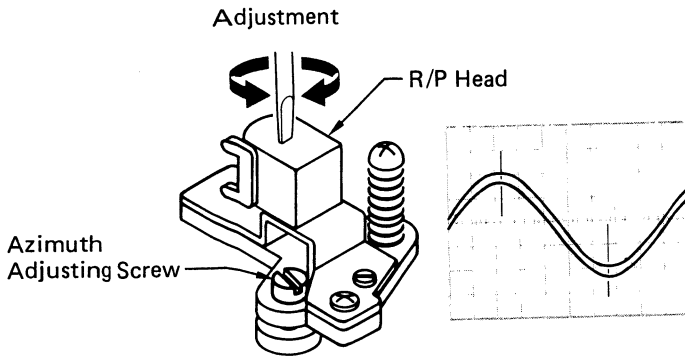


## ELECTRICAL ADJUSTMENTS (Continued)

- Remove the Button Panel from the unit and insert a 5kHz test tape (Example: OLYMPUS OA-A221) into the cassette holder.



- While playing back the test tape, slowly turn the azimuth adjusting screw until the amplitudes of the right and left channel signal wave forms are at maximum and both wave forms are superimposed. Set to optimum at maximum reading of the VTVMs.



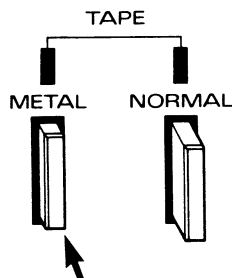
- After the adjustment, secure the azimuth adjusting screw with paint or glue.

### PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

Set the Tape Select Switch to METAL and insert a test tape (Example: OLYMPUS OA-F311) into the cassette holder. Then, perform the adjustment by the following procedure.

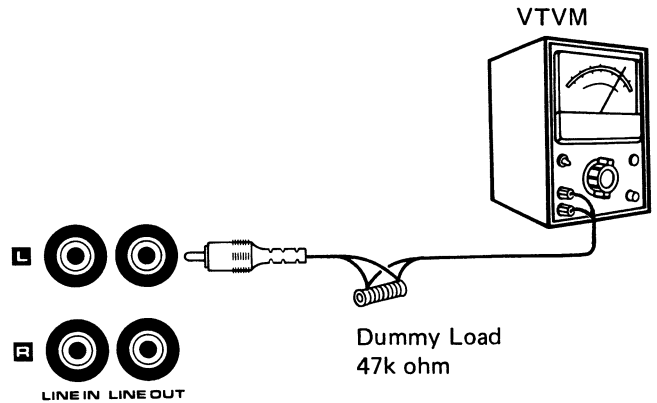
#### NOTE:

The signals of 63Hz, 1kHz, and 10kHz are recorded at  $-20\text{dB}$  on the test tape.



#### LEFT CHANNEL

- Connect the VTVM to the left channel LINE OUT and play back the 1kHz and 10kHz signals recorded on the test tape.



- Adjust the potentiometer (P104) until the output of the 10kHz signal becomes  $-2\text{dB}$  to the output of the 1kHz or the deviation is  $\pm 1\text{dB}$  on the VTVM.

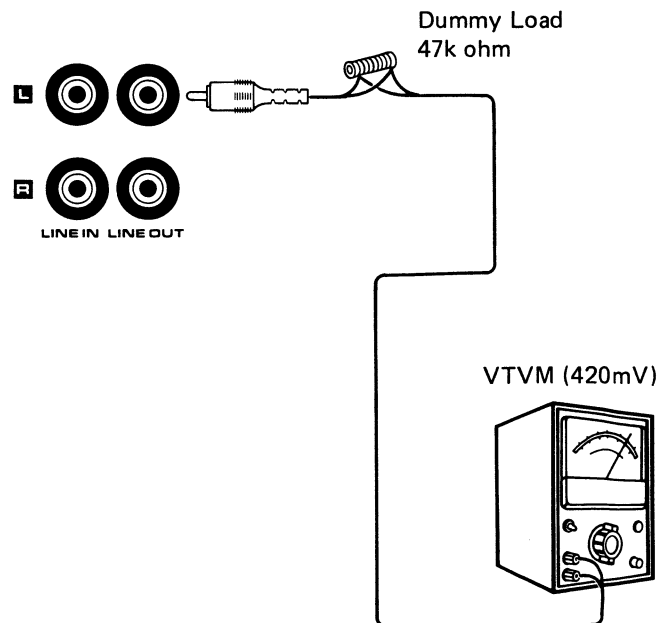
#### RIGHT CHANNEL

Connect the VTVM to the right channel LINE OUT and adjust the potentiometer (P204) by following the same procedure as LEFT CHANNEL.

### PLAYBACK SENSITIVITY ADJUSTMENT

#### LEFT CHANNEL

- Connect the VTVM to the left channel LINE OUT and play back a 315kHz test tape (Example: OLYMPUS OA-L213).



- Adjust the potentiometer (P102) until the output of the test tape becomes 420mV.

#### RIGHT CHANNEL

Connect the VTVM to the right channel LINE OUT and adjust the potentiometer (P202) by following the same procedure as LEFT CHANNEL.

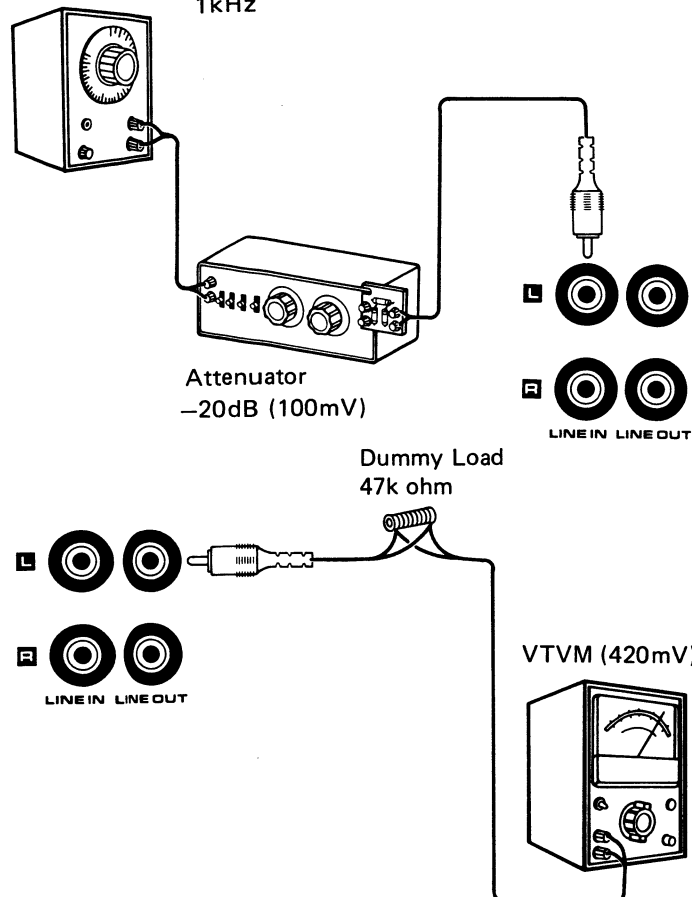
# ELECTRICAL ADJUSTMENTS (Continued)

## METER SENSITIVITY ADJUSTMENT

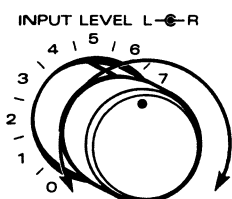
### LEFT CHANNEL

1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated. Then, insert a microcassette tape into the unit.

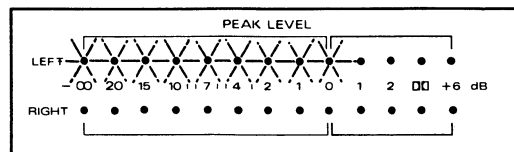
Audio Signal Generator  
1kHz



2. Feed the 1kHz signal from the audio signal generator at -20dB (100mV) into the unit and set the unit in the recording mode.
3. Adjust the left channel Input Level Control (VR1-1) until the VTVM reads 420mV.



4. Turn the potentiometer (P101) on the **LED Meter Control** P.C.Board under the above condition until the red LED indicating 0dB on the meter lights up.



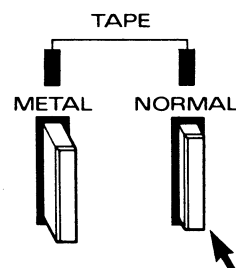
### RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the right channel Input Level Control (VR1-2) and the potentiometer (P202) on the **LED Meter Control** P.C.Board by following the same procedure as LEFT CHANNEL.

## RECORDING & PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

### For Normal Tape

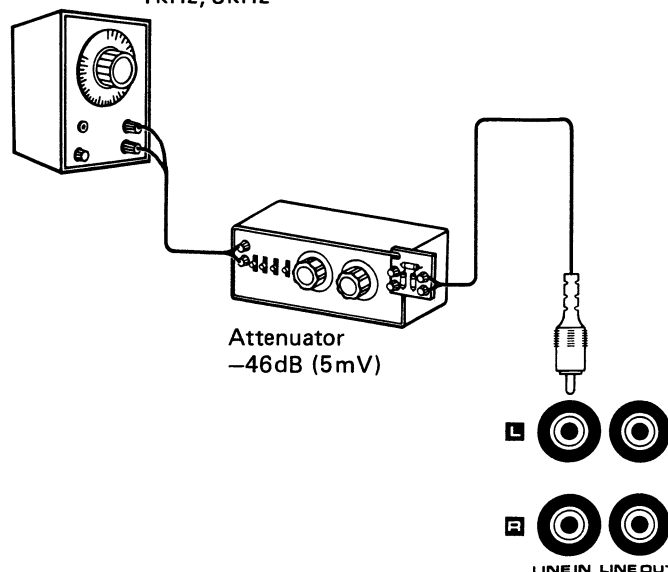
Set the Tape Select Switch to NORMAL and insert a normal tape (Example: TDK AD MC-60) into the unit. Then, perform the adjustment by the following procedure.



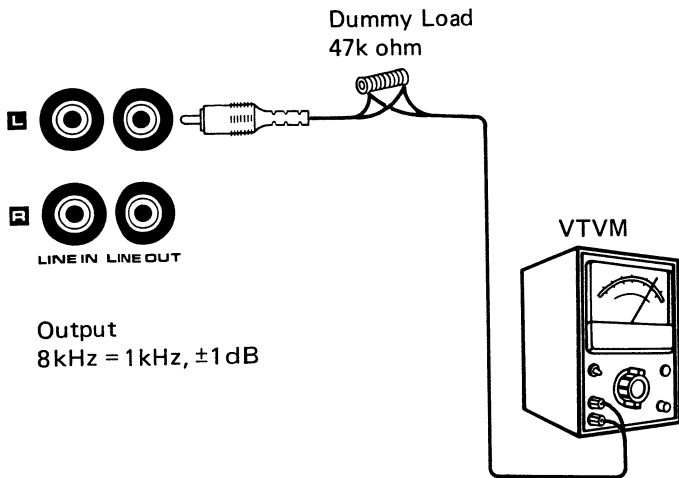
### LEFT CHANNEL

1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated.

Audio Signal Generator  
1kHz, 8kHz



## ELECTRICAL ADJUSTMENTS (Continued)



2. Alternately record the 1kHz and 8kHz signals from the audio signal generator at  $-46\text{dB}$  (5mV) on the tape several times.
3. While playing back the recorded signals, check that the 8kHz signal output is identical to 1kHz signal output or the deviation is  $\pm 1\text{dB}$  on the VTVM.
4. If necessary, adjust the potentiometer (P105) and re-check the output of each signal by playing back the signals after the recording operation for the signals.
5. Repeat the above adjustment until the specified output is obtained.

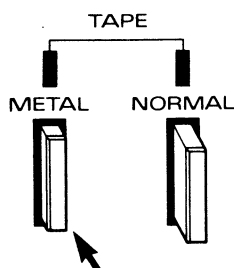
### RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the potentiometer (P205) by following the same procedure as LEFT CHANNEL.

### • For Metal Tape

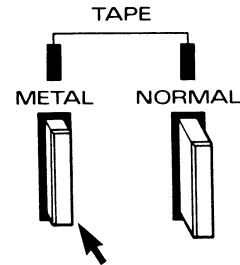
Set the Tape Select Switch to METAL and insert a metal tape (Example: OLYMPUS OA-B311) into the cassette holder. Then, adjust the potentiometers by following the conditions described below and the same procedure as NORMAL TAPE.

- \* Input Signal . . . . . 1kHz and 12kHz
- \* Input Level . . . . .  $-46\text{dB}$  (5mV)
- \* Potentiometers for adjustment
  - Left channel . . . . . P101
  - Right channel . . . . . P201



### RECORDING & PLAYBACK SENSITIVITY ADJUSTMENT

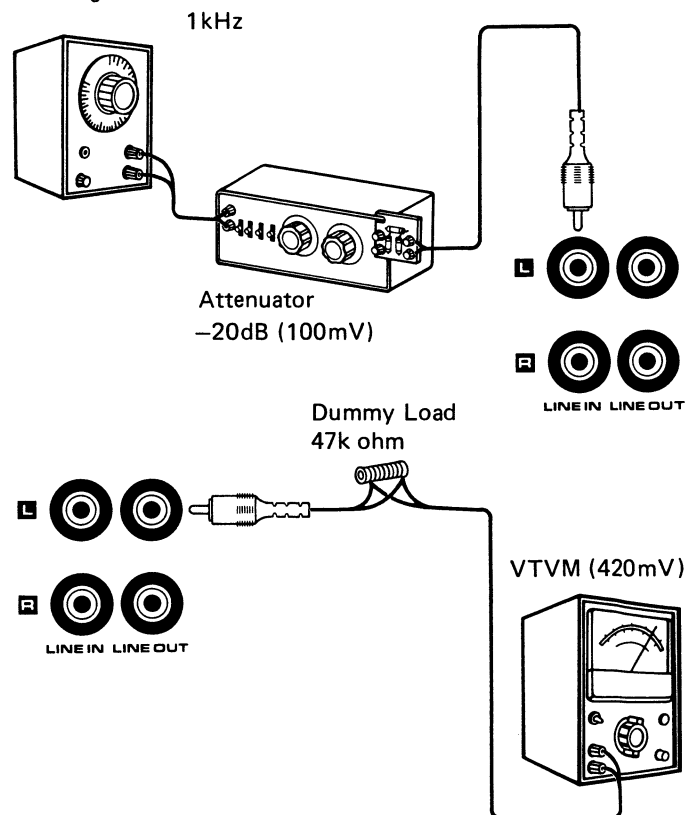
Set the Tape Select Switch to METAL and insert a metal tape (Example: OLYMPUS OA-B311) into the cassette holder. Then, perform the adjustment by the following procedure.



### LEFT CHANNEL

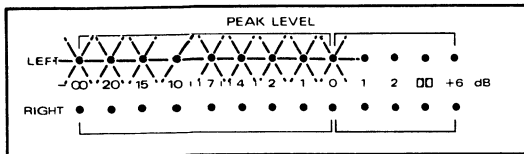
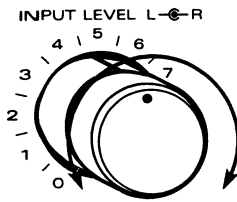
1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated.

### Audio Signal Generator



2. Set the unit in the recording standby mode by pressing the Pause button first, and then the Record and Play buttons simultaneously.
3. Feed the 1kHz signal from the audio signal generator at  $-20\text{dB}$  (100mV) into the unit and adjust the left channel Input Level Control until the VTVM reads 420mV (LED marked 0dB lights up on the LED Meter.). After the adjustment, release recording standby mode by pressing the Pause button and record the signal on the tape.

## ELECTRICAL ADJUSTMENTS (Continued)



4. Play back the recorded signal and check that the VTVM reads 420mV (LED marked 0dB lights up on the LED Meter.).
5. If necessary, adjust the potentiometer (P103) and re-check the reading of the VTVM by playing back the signal after the recording operation for the signal.
6. Repeat the above adjustment until the specified output is obtained.

### RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the right channel Input Level Control and the potentiometer (P203) by following the same procedure as LEFT CHANNEL.



# PARTS LIST

## PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK  $\Delta$  IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

Ref. No.	Part No.	Description	Q'ty
<b>PACKAGE</b>			
	141 6 1319 04700	Inner Carton	1
	141 6 1419 51100	Individual Carton	1
	141 6 1449 68800	Styrofoam Case	2
	141 6 2519 12990	Poly Cover	1
	141 6 3119 19900	Inner Pad	1
	141 6 3119 20000	Inner Pad	1
	141 6 4559 03300	Serial No. Sheet	1
<b>ACCESSORIES</b>			
	4 2369 70571	Patch Cord	2
	4 2419 73991	Micro Cassette	1
	$\Delta$ 4 2439 70357	Power Cord	1
	141 6 4729 07700	Caution Label	1
	141 6 4729 32603	Remote Label	1
	142 6 4119 09800	Instruction Manual	1
<b>CABINET</b>			
VR1	4 2229 73370	Volume Control (Input Level, A-20k)	1
C517	$\Delta$ 4 2239 70490	Capacitor 0.01 $\mu$ F	1
S12	$\Delta$ 4 2319 72354	Power Switch	1
S13	$\Delta$ 4 2319 72140	Slide Switch (Voltage Select)	1
J2	4 2359 75060	Jack 1P (Headphones)	1
CN1	4 2359 75245	Connector 3P Assy	1
CN4	4 2359 75244	Connector 3P Assy	1
CN6	4 2359 75242	Connector 3P Assy	1
T501	$\Delta$ 4 2379 70650	Ring Terminal	1
	$\Delta$ 4 2519 73390	Power Transformer	1
	141 0 1119 69701	Front Panel Assy	1
	141 0 1319 00201	Window Clear Assy	1
	141 0 1749 00400	Leg Assy	4
	141 0 3719 00500	Transformer Bracket Assy	1
	141 2 1119 65200	Cabinet Chassis	1
	141 2 1119 65301	Cover	1
	141 2 1149 22000	Chassis Panel	1
	141 2 1249 24800	Cassette Lid	1
	141 2 1259 03300	Sheet	1
	141 2 1259 03401	Rear Panel	1
	141 2 1419 09292	Rating Plate	1
	141 2 1439 10300	Signal Plate	1
	141 2 1529 03200	Eject Shaft Guide	1
	141 2 1569 03200	Button Panel	1
	141 2 1619 77600	Select Button	4
	141 2 1619 77700	Eject Button	1
	141 2 1619 77800	Select Button	7
	141 2 1619 77900	Switch Knob	1
	141 2 1619 78000	Joint Knob	1
	141 2 1619 78100	Power Knob	1
	141 2 1639 37600	Volume Knob	1
	141 2 1639 37700	Volume Knob	1
	141 2 2149 14300	Meter Plate	1
	141 2 2149 14400	Button Frame	1
	141 2 2149 14500	Button Frame	1
	141 2 3519 53200	Photocoupler Bracket	1
	141 2 3659 15900	Switch Bracket	1
	141 2 3659 16000	Switch Bracket	1
	141 2 3679 28800	Jack Bracket	1
	141 2 3689 07600	Photocoupler Guide	1
	141 2 3719 05500	Fix Transformer	2
	141 2 3749 07700	LED Plate	1

Ref. No.	Part No.	Description	Q'ty
<b>CABINET</b>			
	141 2 3779 17800	P.C.B. Bracket	1
	141 2 3779 17801	P.C.B. Bracket	1
	141 2 3899 08200	Bushing	1
	141 2 4219 22300	Decorative Screw	2
	141 2 4359 22501	Capacitor Cover	1
	141 2 4359 28700	Insulator	1
	141 2 4359 28800	Insulator	1
	141 2 7529 99400	Eject Shaft	1
	141 2 7529 99500	P.C.B. Post	2
	141 2 8549 03200	Eject Button Spring	1
	141 6 4559 03300	Serial No. Sheet	1
	101 3 1202 00411	Screw, Flat Hd. +M2.0x4	2
	101 3 1202 01011	Screw, Flat Hd. +M2.0x10	2
	101 3 1202 60513	Screw, Flat Hd. +M2.6x5	6
	101 3 1302 00411	Screw, Pan Hd. +M2.0x4	2
	101 3 1302 00418	Screw, Pan Hd. +M2.0x4	2
	101 3 1302 00511	Screw, Pan Hd. +M2.0x5	6
	101 3 1302 60511	Screw, Pan Hd. +M2.6x5	2
	101 3 1303 00511	Screw, Pan Hd. +M3.0x5	6
	101 3 1304 00811	Screw, Pan Hd. +M4.0x8	2
	101 3 1702 00411	Screw, Bind Hd. +M2.0x4	4
	101 3 1702 60311	Screw, Bind Hd. +M2.6x3	16
	101 3 1702 60318	Screw, Bind Hd. +M2.6x3	2
	101 3 1702 60411	Screw, Bind Hd. +M2.6x4	2
	101 3 1702 60418	Screw, Bind Hd. +M2.6x4	7
	101 3 1702 60511	Screw, Bind Hd. +M2.6x5	6
	101 3 1702 60811	Screw, Bind Hd. +M2.6x8	6
	101 3 1703 00511	Screw, Bind Hd. +M3.0x5	2
	101 3 1703 00518	Screw, Bind Hd. +M3.0x5	1
	101 3 1703 00818	Screw, Bind Hd. +M3.0x8	2
	103 3 1302 00611	Screw, Pan Hd. Tapping-2 +M2.0x6	1
	106 3 1203 00111	Nut-2 M3.0	2
	106 3 6204 00011	Hexagon Flange Nut-S M4.0	2
	110 3 1202 60018	Finished Washer M2.6	4
	110 3 9260 80082	Washer M2.6x8.0x0.8	4
	112 3 1301 50082	E Ring M1.5	1
	4 2319 74740	Switch Board	1
CN11	4 2359 75192	Connector 8P Assy	1
<b>POWER SUPPLY P.C.B. ASSY</b>			
	4 1329 76061	Power Supply P.C.B. Assy	1
C501	4 2239 70610	Capacitor 1000 $\mu$ F 25V	1
C502	4 2239 70610	Capacitor 1000 $\mu$ F 25V	1
C514	CD1 0 7250 0001V	Electrolytic 100 $\mu$ F 25V	1
C515	CC2 2 3500 KE00C	Ceramic 0.022 $\mu$ F 50V $\pm$ 10%	1
C516	CC2 2 3500 KE00C	Ceramic 0.022 $\mu$ F 50V $\pm$ 10%	1
C517	CD1 0 8250 0001V	Electrolytic 1000 $\mu$ F 25V	1
D1	202 5 4650 02010	Diode, DBA20	1
	$\Delta$ 4 2359 70910	Fuse Holder	2
F1	$\Delta$ 4 2349 70260	Fuse 2A	1
Q504	203 5 4580 69860	Transistor, 2SB698	1
R512	RH1 5 0102 JZ000	Metal 15 ohm 1W $\pm$ 5%	1
R513	RD2 2 2251 JH000	Carbon 2.2k ohm 1/4W $\pm$ 5%	1
R514	RD2 2 4251 JH000	Carbon 220k ohm 1/4W $\pm$ 5%	1
<b>CONTROL P.C.B. ASSY</b>			
	4 1329 76070	Control P.C.B. Assy	1
J4	141 2 4729 04700	Staple 10	9
	4 2359 74850	DIN Socket 8P (Remote Control Jack)	1

# PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
CONTROL P.C.B. ASSY				CONTROL P.C.B. ASSY			
CN7	4 2359 75173	Connector 5P Assy	1	D631	202 5 2450 13510	Diode, DS135	1
CN8	4 2369 73160	Connector 6P	1	IC601	4 2069 70470	IC, MC14069B	1
CN9	4 2369 73130	Connector 3P	1	IC602	4 2069 70390	IC, TC9121P	1
CN10	4 2369 73130	Connector 3P	1	IC603	4 2069 70310	IC, MC14011B	1
CN11	4 2369 72940	Connector 8P	1	IC604	4 2069 70310	IC, MC14011B	1
CN12	4 2369 71581	Connector 5P	1		4 2589 71760	OSC Block	1
CN13	4 2369 73130	Connector 3P	1	P101	4 2229 72971	Potentiometer (B-100k)	1
CN14	4 2359 75175	Connector 5P Assy	1	P105	4 2229 72972	Potentiometer (B-200k)	1
C150	CC1 0 1500 KE00C	Ceramic 100 pF 50V ±10%	1	P201	4 2229 72971	Potentiometer (B-100k)	1
C250	CC1 0 1500 KE00C	Ceramic 100 pF 50V ±10%	1	P205	4 2229 72972	Potentiometer (B-200k)	1
C503	CD1 0 8250 0001V	Electrolytic 1000 µF 25V	1	Q502	203 5 6850 40050	Transistor, 2SD400	1
C504	CD4 7 7250 0001V	Electrolytic 470 µF 25V	1	Q601	203 5 7200 60850	Transistor, 2SA608	1
C505	CD4 7 7100 0001V	Electrolytic 470 µF 10V	1	Q602	203 5 5100 53650	Transistor, 2SC536	1
C506	CD1 0 8160 0001V	Electrolytic 1000 µF 16V	1	Q603	203 5 5100 53650	Transistor, 2SC536	1
C507	CD1 0 8160 0001V	Electrolytic 1000 µF 16V	1	Q604	203 5 5100 53650	Transistor, 2SC536	1
C508	CD4 7 7160 0001V	Electrolytic 470 µF 16V	1	Q605	203 5 5100 53650	Transistor, 2SC536	1
C509	CD4 7 6100 0001V	Electrolytic 47 µF 10V	1	Q606	203 5 5100 53650	Transistor, 2SC536	1
C510	CC1 0 3500 KE00C	Ceramic 0.01 µF 50V ±10%	1	Q607	203 5 5100 53650	Transistor, 2SC536	1
C511	CC1 0 3500 KE00C	Ceramic 0.01 µF 50V ±10%	1	Q608	203 5 7200 60850	Transistor, 2SA608	1
C512	CC1 0 3500 KE00C	Ceramic 0.01 µF 50V ±10%	1	Q609	203 5 4570 73460	Transistor, 2SD734	1
C513	CD1 0 8250 0001V	Electrolytic 1000 µF 25V	1	Q610	203 5 4570 73460	Transistor, 2SD734	1
C601	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1	Q611	203 5 4570 73460	Transistor, 2SD734	1
C602	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1	Q612	203 5 4570 73460	Transistor, 2SD734	1
C603	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1	R304	RH1 8 0202 JZ000	Metal 18 ohm 2W ±5%	1
C604	CD2 2 6100 0001V	Electrolytic 22 µF 10V	1	R501	RD2 2 A251 JH000	Carbon 2.2 ohm 1/4W ±5%	1
C607	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1	R502	RD4 7 1251 JH000	Carbon 470 ohm 1/4W ±5%	1
C608	CD1 0 5100 0000V	Electrolytic 1 µF 10V	1	R503	RD5 6 A251 JH000	Carbon 5.6 ohm 1/4W ±5%	1
C609	CD1 0 5100 0000V	Electrolytic 1 µF 10V	1	R504	RD1 0 A251 JH000	Carbon 1 ohm 1/4W ±5%	1
C610	CD4 7 6100 0001V	Electrolytic 47 µF 10V	1	R505	RD1 8 1251 JH000	Carbon 180 ohm 1/4W ±5%	1
C611	CD4 7 6100 0001V	Electrolytic 47 µF 10V	1	R506	RD1 8 1251 JH000	Carbon 180 ohm 1/4W ±5%	1
C612	CA2 2 5100 K000V	Aluminum 2.2 µF 10V ±10%	1	R507	RD5 6 A251 JH000	Carbon 5.6 ohm 1/4W ±5%	1
C613	CC2 2 3500 KE00C	Ceramic 0.022 µF 50V ±10%	1	R508	RH3 9 0102 JZ000	Metal 39 ohm 1W ±5%	1
C614	CC2 2 3500 KE00C	Ceramic 0.022 µF 50V ±10%	1	R509	RD6 8 1251 JH000	Carbon 680 ohm 1/4W ±5%	1
C615	CC2 2 3500 KE00C	Ceramic 0.022 µF 50V ±10%	1	R510	RD5 6 A251 JH000	Carbon 5.6 ohm 1/4W ±5%	1
C616	CC2 2 3500 KE00C	Ceramic 0.022 µF 50V ±10%	1	R511	RD2 7 0251 JH000	Carbon 27 ohm 1/4W ±5%	1
C617	CC2 2 3500 KE00C	Ceramic 0.022 µF 50V ±10%	1	R601	RP4 7 1121 JH000	Pretty 470 ohm 1/8W ±5%	1
C618	CC2 2 3500 KE00C	Ceramic 0.022 µF 50V ±10%	1	R602	RP1 2 4121 JH000	Pretty 120k ohm 1/8W ±5%	1
C619	CC2 2 3500 KE00C	Ceramic 0.022 µF 50V ±10%	1	R603	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
D501	202 5 3210 10010	Diode, GZA10L	1	R604	RP4 7 2121 JH000	Pretty 4.7k ohm 1/8W ±5%	1
D502	202 5 3210 06810	Diode, GZA6.8L	1	R605	RP5 6 2121 JH000	Pretty 5.6k ohm 1/8W ±5%	1
D503	202 5 3210 12020	Diode, GZA12U	1	R606	RP2 7 4121 JH000	Pretty 270k ohm 1/8W ±5%	1
D601	4 2029 71440	Diode, 1SS95	1	R607	RP2 2 3121 JH000	Pretty 22k ohm 1/8W ±5%	1
D602	4 2029 71440	Diode, 1SS95	1	R608	RP3 9 3121 JH000	Pretty 39k ohm 1/8W ±5%	1
D603	4 2029 71440	Diode, 1SS95	1	R609	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1
D604	4 2029 71440	Diode, 1SS95	1	R610	RP2 2 3121 JH000	Pretty 22k ohm 1/8W ±5%	1
D605	4 2029 71440	Diode, 1SS95	1	R611	RP6 8 3121 JH000	Pretty 68k ohm 1/8W ±5%	1
D606	4 2029 71440	Diode, 1SS95	1	R612	RP2 2 3121 JH000	Pretty 22k ohm 1/8W ±5%	1
D607	4 2029 71440	Diode, 1SS95	1	R613	RP2 2 3121 JH000	Pretty 22k ohm 1/8W ±5%	1
D608	4 2029 71440	Diode, 1SS95	1	R614	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
D609	4 2029 71440	Diode, 1SS95	1	R615	RP2 2 3121 JH000	Pretty 22k ohm 1/8W ±5%	1
D610	4 2029 71440	Diode, 1SS95	1	R616	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
D611	4 2029 71440	Diode, 1SS95	1	R617	RP2 2 4121 JH000	Pretty 220k ohm 1/8W ±5%	1
D612	4 2029 71440	Diode, 1SS95	1	R618	RP1 0 1121 JH000	Pretty 100 ohm 1/8W ±5%	1
D613	4 2029 71440	Diode, 1SS95	1	R620	RP2 2 3121 JH000	Pretty 22k ohm 1/8W ±5%	1
D614	4 2029 71440	Diode, 1SS95	1	R621	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1
D615	4 2029 71440	Diode, 1SS95	1	R623	RP2 2 3121 JH000	Pretty 22k ohm 1/8W ±5%	1
D616	4 2029 71440	Diode, 1SS95	1	R624	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
D617	4 2029 71440	Diode, 1SS95	1	R625	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
D618	4 2029 71440	Diode, 1SS95	1	R626	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
D619	4 2029 71440	Diode, 1SS95	1	R627	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1
D620	4 2029 71440	Diode, 1SS95	1	R628	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
D621	4 2029 71440	Diode, 1SS95	1	R629	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
D622	4 2029 71440	Diode, 1SS95	1	R630	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1
D623	4 2029 71440	Diode, 1SS95	1	R633	RP2 2 4121 JH000	Pretty 220k ohm 1/8W ±5%	1
D624	4 2029 71440	Diode, 1SS95	1	R634	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
D625	4 2029 71440	Diode, 1SS95	1	R636	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
D626	4 2029 71440	Diode, 1SS95	1	R637	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
D627	4 2029 71440	Diode, 1SS95	1	R638	RP4 7 2121 JH000	Pretty 4.7k ohm 1/8W ±5%	1
D628	4 2029 71440	Diode, 1SS95	1	R639	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
D630	202 5 2450 13510	Diode, DS135	1	R640	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1

# PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
CONTROL P.C.B. ASSY				AMPLIFIER P.C.B. ASSY			
R641	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1	C146	CM8 2 2500 K00SV	Mylar 0.0082 µF 50V ±10%	1
R642	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1	C147	CM5 6 2500 K00SV	Mylar 0.0056 µF 50V ±10%	1
R643	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1	C148	CT1 0 5250 M00DV	Tantalum 1 µF 25V ±20%	1
R644	RP4 7 2121 JH000	Pretty 4.7k ohm 1/8W ±5%	1	C149	CM3 3 2500 K00SV	Mylar 0.0033 µF 50V ±10%	1
R645	RP4 7 2121 JH000	Pretty 4.7k ohm 1/8W ±5%	1	C151	CC6 8 0500 KD00C	Ceramic 68 pF 50V ±10%	1
R646	RP2 2 3121 JH000	Pretty 22k ohm 1/8W ±5%	1	C152	CM1 0 2500 K00SV	Mylar 0.001 µF 50V ±10%	1
R647	RP2 7 4121 JH000	Pretty 270k ohm 1/8W ±5%	1	C153	CM1 0 2500 K00SV	Mylar 0.001 µF 50V ±10%	1
R648	RP3 9 4121 JH000	Pretty 390k ohm 1/8W ±5%	1	C154	CM1 0 2500 K00SV	Mylar 0.001 µF 50V ±10%	1
R649	RP1 5 2121 JH000	Pretty 1.5k ohm 1/8W ±5%	1	C155	CM1 0 2500 K00SV	Mylar 0.001 µF 50V ±10%	1
R650	RD4 3 1251 JN000	Carbon 430 ohm 1/4W ±5%	1	C156	CT1 0 4350 M00DV	Tantalum 0.1 µF 35V ±20%	1
R651	RP1 5 2121 JH000	Pretty 1.5k ohm 1/8W ±5%	1	C157	CT1 0 4350 M00DV	Tantalum 0.1 µF 35V ±20%	1
R652	RP1 5 2121 JH000	Pretty 1.5k ohm 1/8W ±5%	1	C158	CM2 3 3500 K00SV	Mylar 0.022 µF 50V ±10%	1
R653	RP2 7 2121 JH000	Pretty 270 ohm 1/8W ±5%	1	C201	CC1 5 2500 KE00C	Ceramic 0.0015 µF 50V ±10%	1
R654	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1	C202	CD2 2 6100 0000V	Electrolytic 22 µF 10V	1
R655	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1	C203	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1
R656	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1	C204	CM5 6 3500 K00MV	Ceramic 0.056 µF 50V ±10%	1
R657	RP5 6 1121 JH000	Pretty 560 ohm 1/8W ±5%	1	C205	CD3 3 6100 0000V	Electrolytic 33 µF 10V	1
R658	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1	C206	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1
R659	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1	C207	CT3 3 4350 M00DV	Tantalum 0.33 µF 35V ±20%	1
R660	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1	C208	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1
R661	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1	C209	CD3 3 6100 0000V	Electrolytic 33 µF 10V	1
R662	RP1 0 1121 JH000	Pretty 100 ohm 1/8W ±5%	1	C210	CD3 3 5250 0002V	Electrolytic 3.3 µF 25V	1
AMPLIFIER P.C.B. ASSY				C211	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1
	4 1329 76140	Amplifier P.C.B. Assy	1	C212	CT3 3 4350 M00DV	Tantalum 0.33 µF 35V ±20%	1
	141 2 4729 04300	Staple	5	C213	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1
	141 2 4729 04700	Staple 10	2	C214	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1
C101	CC1 5 2500 KE00C	Ceramic 0.0015 µF 50V ±10%	1	C215	CD1 0 6160 0000V	Electrolytic 10 µF 16V	1
C102	CD2 2 6100 0000V	Electrolytic 22 µF 10V	1	C216	CM3 3 3500 K00MV	Mylar 0.033 µF 50V ±10%	1
C103	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1	C217	CM4 7 2500 K00SV	Mylar 0.0047 µF 50V ±10%	1
C104	CM5 6 3500 K00MV	Mylar 0.056 µF 50V ±10%	1	C218	CD1 0 7100 0000V	Electrolytic 100 µF 10V	1
C105	CD3 3 6100 0000V	Electrolytic 33 µF 10V	1	C219	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1
C106	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1	C220	CD4 7 6160 0000V	Electrolytic 47 µF 16V	1
C107	CT3 3 4350 M00DV	Tantalum 0.33 µF 35V ±20%	1	C221	CC1 8 1500 KD00C	Ceramic 180 pF 50V ±10%	1
C108	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1	C222	CM5 6 2500 K00SV	Mylar 0.0056 µF 50V ±10%	1
C109	CD3 3 6100 0000V	Electrolytic 33 µF 10V	1	C223	CD1 0 6160 0002V	Electrolytic 10 µF 16V	1
C110	CD3 3 5250 0002V	Electrolytic 3.3 µF 25V	1	C224	CM4 7 2500 K00SV	Mylar 0.0047 µF 50V ±10%	1
C111	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1	C225	CM2 7 3500 K00MV	Mylar 0.027 µF 50V ±10%	1
C112	CT3 3 4350 M00DV	Tantalum 0.33 µF 35V ±20%	1	C226	CT1 0 5250 M00DV	Tantalum 1 µF 25V ±20%	1
C113	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1	C227	CC2 2 1500 KD00C	Ceramic 220 pF 50V ±10%	1
C114	CC1 0 2500 KE00C	Ceramic 0.001 µF 50V ±10%	1	C228	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1
C115	CD1 0 6160 0000V	Electrolytic 10 µF 16V	1	C230	CD1 0 7160 0001V	Electrolytic 100 µF 16V	1
C116	CM3 3 3500 K00MV	Mylar 0.033 µF 50V ±10%	1	C231	CT3 3 4350 M00DV	Tantalum 0.33 µF 35V ±20%	1
C117	CM4 7 2500 K00SV	Mylar 0.0047 µF 50V ±10%	1	C232	CT1 0 4350 M00DV	Tantalum 0.1 µF 35V ±20%	1
C118	CD1 0 7100 0000V	Electrolytic 100 µF 10V	1	C233	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1
C119	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1	C234	CM4 7 3500 K00SV	Mylar 0.047 µF 50V ±10%	1
C120	CD4 7 6160 0000V	Electrolytic 47 µF 16V	1	C235	CD3 3 5250 0002V	Electrolytic 3.3 µF 25V	1
C121	CC1 8 1500 KD00C	Ceramic 180 pF 50V ±10%	1	C236	CD1 0 6160 0002V	Electrolytic 10 µF 16V	1
C122	CM5 6 2500 K00SV	Mylar 0.0056 µF 50V ±10%	1	C237	CD1 0 6160 0002V	Electrolytic 10 µF 16V	1
C123	CD1 0 6160 0002V	Electrolytic 10 µF 16V	1	C238	CD4 7 6100 0000V	Electrolytic 47 µF 10V	1
C124	CM4 7 2500 K00SV	Mylar 0.0047 µF 50V ±10%	1	C239	CD2 2 5100 0000V	Electrolytic 2.2 µF 10V	1
C125	CM2 7 3500 K00MV	Mylar 0.027 µF 50V ±10%	1	C240	CC6 8 1500 KE00C	Ceramic 680 pF 50V ±10%	1
C126	CT1 0 5250 M00DV	Tantalum 1 µF 25V ±20%	1	C241	CM6 8 2500 K00SV	Mylar 0.0068 µF 50V ±10%	1
C127	CC2 2 1500 KD00C	Ceramic 220 pF 50V ±10%	1	C242	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1
C128	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1	C244	CD1 0 5100 0000V	Electrolytic 1 µF 10V	1
C130	CD1 0 7160 0001V	Electrolytic 100 µF 16V	1	C245	CD4 7 6100 0000V	Electrolytic 47 µF 10V	1
C131	CT3 3 4350 M00DV	Tantalum 0.33 µF 35V ±20%	1	C246	CM8 2 2500 K00SV	Mylar 0.0082 µF 50V ±10%	1
C132	CT1 0 4350 M00DV	Tantalum 0.1 µF 35V ±20%	1	C247	CM5 6 2500 K00SV	Mylar 0.0056 µF 50V ±10%	1
C133	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1	C248	CT1 0 5250 M00DV	Tantalum 1 µF 25V ±20%	1
C134	CM4 7 3500 K00SV	Mylar 0.047 µF 50V ±10%	1	C249	CM3 3 2500 K00SV	Mylar 0.0033 µF 50V ±10%	1
C135	CD3 3 5250 0002V	Electrolytic 3.3 µF 25V	1	C251	CC6 8 0500 KD00C	Ceramic 68 pF 50V ±10%	1
C136	CD1 0 6160 0002V	Electrolytic 10 µF 16V	1	C252	CM1 0 2500 K00SV	Mylar 0.001 µF 50V ±10%	1
C137	CD1 0 6160 0002V	Electrolytic 10 µF 16V	1	C253	CM1 0 2500 K00SV	Mylar 0.001 µF 50V ±10%	1
C138	CD4 7 6100 0000V	Electrolytic 47 µF 10V	1	C254	CM1 0 2500 K00SV	Mylar 0.001 µF 50V ±10%	1
C139	CD2 2 5100 0000V	Electrolytic 2.2 µF 10V	1	C255	CM1 0 2500 K00SV	Mylar 0.001 µF 50V ±10%	1
C140	CC6 8 1500 KE00C	Ceramic 680 pF 50V ±10%	1	C256	CT1 0 4350 M00DV	Tantalum 0.1 µF 35V ±20%	1
C141	CM6 8 2500 K00SV	Mylar 0.0068 µF 50V ±10%	1	C257	CT1 0 4350 M00DV	Tantalum 0.1 µF 35V ±20%	1
C142	CD1 0 6100 0000V	Electrolytic 10 µF 10V	1	C258	CM2 2 3500 K00SV	Mylar 0.022 µF 50V ±10%	1
C144	CD1 0 5100 0000V	Electrolytic 1 µF 10V	1	C301	CC3 9 1500 KE00C	Ceramic 390 pF 50V ±10%	1
C145	CD4 7 6100 0000V	Electrolytic 47 µF 10V	1	C302	CD1 0 6160 0000V	Electrolytic 10 µF 16V	1
				C303	CC1 0 3500 KE00C	Ceramic 0.01 µF 50V ±10%	1

# PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
AMPLIFIER P.C.B. ASSY				AMPLIFIER P.C.B. ASSY			
C304	CD2 2 6160 0000V	Electrolytic 22 $\mu$ F 16V	1	Q306	203 5 5100 53650	Transistor, 2SC536	1
C305	CD4 7 6160 0000V	Electrolytic 47 $\mu$ F 16V	1	Q307	4 2039 70680	Transistor, 2SA1015	1
C306	CD2 2 7160 0000V	Electrolytic 220 $\mu$ F 16V	1	Q308	4 2039 70680	Transistor, 2SA1015	1
C307	CD1 0 763A 0001V	Electrolytic 100 $\mu$ F 6.3V	1	Q311	4 2039 70680	Transistor, 2SA1015	1
C308	CT2 2 4350 M00DV	Tantalum 0.22 $\mu$ F 35V $\pm$ 20%	1	R101	RP1 5 3121 JH000	Pretty 15k ohm 1/8W $\pm$ 5%	1
C309	CD4 7 6160 0000V	Electrolytic 47 $\mu$ F 16V	1	R102	RP3 3 2121 JH000	Pretty 3.3k ohm 1/8W $\pm$ 5%	1
C310	CD2 2 7160 0000V	Electrolytic 220 $\mu$ F 16V	1	R103	RP5 6 3121 JH000	Pretty 56k ohm 1/8W $\pm$ 5%	1
C313	CD1 0 7160 0001V	Electrolytic 100 $\mu$ F 16V	1	R104	RP4 7 2121 JH000	Pretty 4.7k ohm 1/8W $\pm$ 5%	1
C314	CD1 0 5160 0000V	Electrolytic 1 $\mu$ F 16V	1	R105	RP8 2 2121 JH000	Pretty 8.2k ohm 1/8W $\pm$ 5%	1
C315	CD4 7 7160 0001V	Electrolytic 470 $\mu$ F 16V	1	R106	RP6 8 2121 JH000	Pretty 6.8k ohm 1/8W $\pm$ 5%	1
C316	CC1 0 2500 KE00C	Ceramic 0.001 $\mu$ F 50V $\pm$ 10%	1	R107	RP1 2 1121 JH000	Pretty 120 ohm 1/8W $\pm$ 5%	1
CN1	4 2369 73130	Connector 3P	1	R108	RD1 5 4251 JN000	Carbon 150k ohm 1/4W $\pm$ 5%	1
CN2	4 2369 73130	Connector 3P	1	R109	RD1 0 4251 JN000	Carbon 100k ohm 1/4W $\pm$ 5%	1
CN3	4 2369 73160	Connector 6P	1	R110	RP1 2 3121 JH000	Pretty 12k ohm 1/8W $\pm$ 5%	1
CN4	4 2369 73130	Connector 3P	1	R111	RP1 0 4121 JH000	Pretty 100k ohm 1/8W $\pm$ 5%	1
CN5	4 2369 73130	Connector 3P	1	R112	RP6 8 2121 JH000	Pretty 6.8k ohm 1/8W $\pm$ 5%	1
CN6	4 2369 73130	Connector 3P	1	R113	RD3 3 2251 JN000	Carbon 3.3k ohm 1/4W $\pm$ 5%	1
CN7	4 2369 73150	Connector 5P	1	R114	RP3 3 2121 JH000	Pretty 3.3k ohm 1/8W $\pm$ 5%	1
CN8	4 2369 75134	Connector 6P Assy	1	R115	RP1 0 3121 JH000	Pretty 10k ohm 1/8W $\pm$ 5%	1
D101	4 2029 71440	Diode, 1SS95	1	R116	RP2 2 1121 JH000	Pretty 220 ohm 1/8W $\pm$ 5%	1
D102	4 2029 71440	Diode, 1SS95	1	R117	RP1 0 4121 JH000	Pretty 100k ohm 1/8W $\pm$ 5%	1
D201	4 2029 71440	Diode, 1SS95	1	R119	RP1 8 2121 JH000	Pretty 1.8k ohm 1/8W $\pm$ 5%	1
D202	4 2029 71440	Diode, 1SS95	1	R120	RP1 5 4121 JH000	Pretty 150k ohm 1/8W $\pm$ 5%	1
D301	4 2029 71440	Diode, 1SS95	1	R121	RD2 7 2251 JN000	Carbon 2.7k ohm 1/4W $\pm$ 5%	1
D302	4 2029 71440	Diode, 1SS95	1	R122	RP1 8 1121 JH000	Pretty 180 ohm 1/8W $\pm$ 5%	1
D303	4 2029 71440	Diode, 1SS95	1	R123	RP4 7 3121 JH000	Pretty 47k ohm 1/8W $\pm$ 5%	1
D305	4 2029 71440	Diode, 1SS95	1	R124	RD3 3 2251 JN000	Carbon 3.3k ohm 1/4W $\pm$ 5%	1
D306	4 2029 71440	Diode, 1SS95	1	R125	RP1 8 4121 JH000	Pretty 180k ohm 1/8W $\pm$ 5%	1
D307	4 2029 71440	Diode, 1SS95	1	R126	RP1 0 2121 JH000	Pretty 1k ohm 1/8W $\pm$ 5%	1
IC101	4 2069 71170	IC, HA12005	1	R127	RD1 0 2251 JN000	Carbon 1k ohm 1/4W $\pm$ 5%	1
IC102	4 2069 70380	IC, NE646B	1	R128	RP2 7 4121 JH000	Pretty 270k ohm 1/8W $\pm$ 5%	1
IC201	4 2069 71170	IC, HA12005	1	R129	RP2 2 1121 JH000	Pretty 220 ohm 1/8W $\pm$ 5%	1
IC202	4 2069 70380	IC, NE646B	1	R130	RD2 2 2251 JN000	Carbon 2.2k ohm 1/4W $\pm$ 5%	1
IC301	4 2069 71190	IC, LM324	1	R131	RP2 2 2121 JH000	Pretty 2.2k ohm 1/8W $\pm$ 5%	1
IC302	4 2069 71200	IC, LM13600	1	R132	RP1 5 4121 JH000	Pretty 150k ohm 1/8W $\pm$ 5%	1
IC303	4 2069 71180	IC, HA12006	1	R133	RP1 0 3121 JH000	Pretty 10k ohm 1/8W $\pm$ 5%	1
IC304	4 2069 71210	IC, LM387N	1	R134	RP4 7 3121 JH000	Pretty 47k ohm 1/8W $\pm$ 5%	1
J1	4 2359 74980	Jack 2P (Microphone)	1	R135	RP1 0 2121 JH000	Pretty 1k ohm 1/8W $\pm$ 5%	1
J3	4 2359 74801	Jack 4P (Line)	1	R136	RP5 6 3121 JH000	Pretty 56k ohm 1/8W $\pm$ 5%	1
L101	4 2729 70290	Coil (33 mH)	1	R137	RP1 0 1121 JH000	Pretty 100 ohm 1/8W $\pm$ 5%	1
L102	4 2729 70440	Coil (15 mH)	1	R138	RD5 6 2251 JN000	Carbon 5.6k ohm 1/4W $\pm$ 5%	1
L103	4 2729 70290	Coil (33 mH)	1	R139	RP1 0 3121 JH000	Pretty 10k ohm 1/8W $\pm$ 5%	1
L104	4 2729 70410	DOLBY Filter Coil	1	R141	RP3 3 3121 JH000	Pretty 33k ohm 1/8W $\pm$ 5%	1
L201	4 2729 70290	Coil (33 mH)	1	R142	RD2 2 3251 JN000	Carbon 22k ohm 1/4W $\pm$ 5%	1
L202	4 2729 70440	Coil (15 mH)	1	R143	RD5 6 2251 JN000	Carbon 5.6k ohm 1/4W $\pm$ 5%	1
L203	4 2729 70290	Coil (33 mH)	1	R144	RP6 8 3121 JH000	Pretty 68k ohm 1/8W $\pm$ 5%	1
L204	4 2729 70410	DOLBY Filter Coil	1	R145	RP2 2 1121 JH000	Pretty 220 ohm 1/8W $\pm$ 5%	1
P102	4 2229 73391	Potentiometer (B-20k)	1	R146	RP8 2 2121 JH000	Pretty 8.2k ohm 1/8W $\pm$ 5%	1
P103	4 2229 73390	Potentiometer (B-10k)	1	R147	RP5 6 0121 JH000	Pretty 56 ohm 1/8W $\pm$ 5%	1
P104	4 2229 73390	Potentiometer (B-10k)	1	R148	RP1 8 3121 JH000	Pretty 18k ohm 1/8W $\pm$ 5%	1
P202	4 2229 73391	Potentiometer (B-20k)	1	R149	RP6 8 2121 JH000	Pretty 6.8k ohm 1/8W $\pm$ 5%	1
P203	4 2229 73390	Potentiometer (B-10k)	1	R150	RP6 8 2121 JH000	Pretty 6.8k ohm 1/8W $\pm$ 5%	1
P204	4 2229 73390	Potentiometer (B-10k)	1	R151	RD2 7 3251 JN000	Carbon 27k ohm 1/4W $\pm$ 5%	1
P301	4 2229 73392	Potentiometer (B-50k)	1	R152	RP2 7 3121 JH000	Pretty 27k ohm 1/8W $\pm$ 5%	1
P302	4 2229 73392	Potentiometer (B-50k)	1	R153	RP1 2 3121 JH000	Pretty 12k ohm 1/8W $\pm$ 5%	1
Q101	4 2039 70430	Transistor, 2SC1815	1	R154	RP1 2 3121 JH000	Pretty 12k ohm 1/8W $\pm$ 5%	1
Q102	203 5 5100 53650	Transistor, 2SC536	1	R155	RD1 5 1251 JN000	Carbon 150 ohm 1/4W $\pm$ 5%	1
Q103	203 5 5100 53650	Transistor, 2SC536	1	R156	RD1 0 3251 JN000	Carbon 10k ohm 1/4W $\pm$ 5%	1
Q104	203 5 4921 01260	Transistor, 2SD1012	1	R201	RP1 5 3121 JH000	Pretty 15k ohm 1/8W $\pm$ 5%	1
Q105	203 5 4921 01260	Transistor, 2SD1012	1	R202	RP3 3 2121 JH000	Pretty 3.3k ohm 1/8W $\pm$ 5%	1
Q201	4 2039 70430	Transistor, 2SC1815	1	R203	RP5 6 3121 JH000	Pretty 56k ohm 1/8W $\pm$ 5%	1
Q202	203 5 5100 53650	Transistor, 2SC536	1	R204	RD4 7 2251 JN000	Carbon 4.7k ohm 1/4W $\pm$ 5%	1
Q203	203 5 5100 53650	Transistor, 2SC536	1	R205	RP8 2 2121 JH000	Pretty 8.2k ohm 1/8W $\pm$ 5%	1
Q204	203 5 4921 01260	Transistor, 2SD1012	1	R206	RP6 8 2121 JH000	Pretty 6.8k ohm 1/8W $\pm$ 5%	1
Q205	203 5 4921 01260	Transistor, 2SD1012	1	R207	RD1 2 1251 JN000	Carbon 120 ohm 1/4W $\pm$ 5%	1
Q301	4 2039 70430	Transistor, 2SC1815	1	R208	RD1 5 4251 JN000	Carbon 150k ohm 1/4W $\pm$ 5%	1
Q302	203 5 6980 59850	Transistor, 2SB598	1	R209	RP1 0 4121 JH000	Pretty 100k ohm 1/8W $\pm$ 5%	1
Q303	203 5 5100 53650	Transistor, 2SC536	1	R210	RP1 2 3121 JH000	Pretty 12k ohm 1/8W $\pm$ 5%	1
Q304	203 5 5100 53650	Transistor, 2SC536	1	R211	RP1 0 4121 JH000	Pretty 100k ohm 1/8W $\pm$ 5%	1
Q305	203 5 5100 53650	Transistor, 2SC536	1	R212	RP6 8 2121 JH000	Pretty 6.8k ohm 1/8W $\pm$ 5%	1

## PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
AMPLIFIER P.C.B. ASSY			
R213	RD3 3 2251 JN000	Carbon 3.3k ohm 1/4W ±5%	1
R214	RP3 3 2121 JH000	Pretty 3.3k ohm 1/8W ±5%	1
R215	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
R216	RP2 2 1121 JH000	Pretty 220 ohm 1/8W ±5%	1
R217	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1
R219	RD1 8 2251 JN000	Carbon 1.8k ohm 1/4W ±5%	1
R220	RD1 5 4251 JN000	Carbon 150k ohm 1/4W ±5%	1
R221	RP2 7 2121 JH000	Pretty 2.7k ohm 1/8W ±5%	1
R222	RP1 8 1121 JH000	Pretty 180 ohm 1/8W ±5%	1
R223	RP4 7 3121 JH000	Pretty 47k ohm 1/8W ±5%	1
R224	RP3 3 2121 JH000	Pretty 3.3k ohm 1/8W ±5%	1
R225	RP1 8 4121 JH000	Pretty 180k ohm 1/8W ±5%	1
R226	RD1 0 2251 JN000	Carbon 1k ohm 1/4W ±5%	1
R227	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
R228	RP2 7 4121 JH000	Pretty 270k ohm 1/8W ±5%	1
R229	RP2 2 1121 JH000	Pretty 220 ohm 1/8W ±5%	1
R230	RP2 2 2121 JH000	Pretty 2.2k ohm 1/8W ±5%	1
R231	RP2 2 2121 JH000	Pretty 2.2k ohm 1/8W ±5%	1
R232	RP1 5 4121 JH000	Pretty 150k ohm 1/8W ±5%	1
R233	RD1 0 3251 JN000	Carbon 10k ohm 1/4W ±5%	1
R234	RD4 7 3251 JN000	Carbon 47k ohm 1/4W ±5%	1
R235	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
R236	RP5 6 3121 JH000	Pretty 56k ohm 1/8W ±5%	1
R237	RP1 0 1121 JH000	Pretty 100 ohm 1/8W ±5%	1
R238	RD5 6 2251 JN000	Carbon 5.6k ohm 1/4W ±5%	1
R239	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
R241	RP3 3 3121 JH000	Pretty 33k ohm 1/8W ±5%	1
R242	RP2 2 3121 JH000	Pretty 22k ohm 1/8W ±5%	1
R243	RD5 6 2251 JN000	Carbon 5.6k ohm 1/4W ±5%	1
R244	RP6 8 3121 JH000	Pretty 68k ohm 1/8W ±5%	1
R245	RD2 2 1251 JN000	Carbon 220 ohm 1/4W ±5%	1
R246	RP8 2 2121 JH000	Pretty 8.2k ohm 1/8W ±5%	1
R247	RP5 6 0121 JH000	Pretty 56 ohm 1/8W ±5%	1
R248	RP1 8 3121 JH000	Pretty 18k ohm 1/8W ±5%	1
R249	RP6 8 2121 JH000	Pretty 6.8k ohm 1/8W ±5%	1
R250	RP6 8 2121 JH000	Pretty 6.8k ohm 1/8W ±5%	1
R251	RP2 7 3121 JH000	Pretty 27k ohm 1/8W ±5%	1
R252	RP2 7 3121 JH000	Pretty 27k ohm 1/8W ±5%	1
R253	RP1 2 3121 JH000	Pretty 12k ohm 1/8W ±5%	1
R254	RP1 2 3121 JH000	Pretty 12k ohm 1/8W ±5%	1
R255	RD1 5 1251 JN000	Carbon 150 ohm 1/4W ±5%	1
R256	RD1 0 3251 JN000	Carbon 10k ohm 1/4W ±5%	1
R301	RD3 3 2251 JN000	Carbon 3.3k ohm 1/4W ±5%	1
R302	RP2 2 2121 JH000	Pretty 2.2k ohm 1/8W ±5%	1
R305	RP1 0 2121 JH000	Pretty 1k ohm 1/8W ±5%	1
R306	RP2 2 2121 JH000	Pretty 2.2k ohm 1/8W ±5%	1
R307	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
R308	RD1 0 3251 JN000	Carbon 10k ohm 1/4W ±5%	1
R309	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
R310	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
R311	RP6 8 3121 JH000	Pretty 68k ohm 1/8W ±5%	1
R312	RP3 3 4121 JH000	Pretty 330k ohm 1/8W ±5%	1
R313	RP8 2 1121 JH000	Pretty 820 ohm 1/8W ±5%	1
R314	RP1 2 3121 JH000	Pretty 12k ohm 1/8W ±5%	1
R315	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1
R316	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1
R317	RP8 2 2121 JH000	Pretty 8.2k ohm 1/8W ±5%	1
R318	RP1 2 4121 JH000	Pretty 120k ohm 1/8W ±5%	1
R319	RD1 0 3251 JN000	Carbon 10k ohm 1/4W ±5%	1
R320	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
R321	RP4 7 3121 JH000	Pretty 47k ohm 1/8W ±5%	1
R322	RP1 0 4121 JH000	Pretty 100k ohm 1/8W ±5%	1
R323	RP4 7 4121 JH000	Pretty 470k ohm 1/8W ±5%	1
R324	RP2 2 4121 JH000	Pretty 220k ohm 1/8W ±5%	1
R325	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
R326	RD5 6 2251 JN000	Carbon 5.6k ohm 1/4W ±5%	1
R327	RD3 3 2251 JN000	Carbon 3.3k ohm 1/4W ±5%	1
R328	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
R329	RD1 2 3251 JN000	Carbon 12k ohm 1/4W ±5%	1
R330	RP5 6 2121 JH000	Pretty 5.6k ohm 1/8W ±5%	1
Ref. No.	Part No.	Description	Q'ty
AMPLIFIER P.C.B. ASSY			
R331	RP5 6 2121 JH000	Pretty 5.6k ohm 1/8W ±5%	1
R332	RP1 2 2121 JH000	Pretty 1.2k ohm 1/8W ±5%	1
R333	RP1 2 2121 JH000	Pretty 1.2k ohm 1/8W ±5%	1
R334	RD3 9 2251 JN000	Carbon 3.9k ohm 1/4W ±5%	1
R335	RP5 6 2121 JH000	Pretty 5.6k ohm 1/8W ±5%	1
R336	RD1 0 2251 JN000	Carbon 1k ohm 1/4W ±5%	1
R337	RD3 9 2251 JN000	Carbon 3.9k ohm 1/4W ±5%	1
R340	RP3 9 1121 JH000	Pretty 390 ohm 1/8W ±5%	1
R341	RD1 0 3251 JN000	Carbon 10k ohm 1/4W ±5%	1
R342	RP5 6 2121 JH000	Pretty 5.6k ohm 1/8W ±5%	1
R343	RP1 0 3121 JH000	Pretty 10k ohm 1/8W ±5%	1
R344	RD1 0 2251 JN000	Carbon 1k ohm 1/4W ±5%	1
RE1	4 2329 70260	Relay	1
S1	4 2319 74610	Select Switch	1
TRANSISTOR P.C.B. ASSY			
	4 1329 77030	Transistor P.C.B. Assy	1
	4 2269 34100	Transistor P.C.B.	1
Q501	4 2039 70601	Transistor, 2SC1846	1
TRANSISTOR P.C.B. ASSY			
	4 1329 77030	Transistor P.C.B. Assy	1
	4 2269 34100	Transistor P.C.B.	1
Q503	4 2039 70601	Transistor, 2SC1846	1
STANDBY SWITCH P.C.B. ASSY			
	4 1329 77040	Standby Switch P.C.B. Assy	1
CN13	4 2359 75246	Connector 3P Assy	1
	4 2269 34080	Standby P.C.B.	1
S11	4 2319 73410	Push Switch (Timer Standby)	1
PHOTOCOUPLER P.C.B. ASSY			
	4 1329 77050	Photocoupler P.C.B. Assy	1
Q613	4 2039 70840	Photocoupler, NJL5141	1
CN10	4 2359 75241	Connector 3P Assy	1
	4 2269 34050	Photocoupler P.C.B.	1
INDICATOR P.C.B. ASSY			
	4 1329 77060	Indicator P.C.B. Assy	1
D629	4 2029 70530	Diode, SLP-114B (Mute)	1
D631	4 2029 70530	Diode, SLP-114B (Play)	1
D632	4 2029 70530	Diode, SLP-114B (Play)	1
D633	4 2029 70531	Diode, SLP-214B (Record)	1
D634	4 2029 70531	Diode, SLP-214B (Record)	1
D635	4 2029 70530	Diode, SLP-114B (Pause)	1
D636	4 2029 70530	Diode, SLP-114B (Pause)	1
D637	4 2029 70530	Diode, SLP-114B (Mute)	1
CN12	4 2359 75174	Connector 5P Assy	1
	4 2269 34060	Indicator P.C.B.	1
LED METER P.C.B. ASSY			
	4 2269 34001	LED Meter P.C.B. Assy	1
	4 2269 34000	LED P.C.B.	1
D703	4 2029 70531	Diode, SLP-214B (DOLBY)	1
D704	4 2029 70530	Diode, SLP-114B (Metal)	1
D705	4 2029 70530	Diode, SLP-114B (Normal)	1
CN2	4 2359 75113	Connector 3P Assy	1
LED METER CONTROL P.C.B. ASSY			
	4 5119 70660	LED Meter Control P.C.B. Assy	1
C1	CD4 7 6160 0002V	Electrolytic 47 μF 16V	1
C101	CD1 0 6160 0002V	Electrolytic 10 μF 16V	1
C201	CD1 0 6160 0002V	Electrolytic 10 μF 16V	1
CN5	4 2359 75111	Connector 3P Assy	1
D101	205 5 9040 44210	Diode, DS442	1
D102	202 5 9110 18820	Diode, 1S188	1
D201	205 5 9040 44210	Diode, DS442	1
D202	202 5 9110 18820	Diode, 1S188	1
IC1	4 2069 70461	IC, LM324	1
IC101	4 2069 71150	IC, IR2432	1

# PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
<b>LED METER CONTROL P.C.B. ASSY</b>			
IC201	4 2069 71150	IC, IR2432	1
P101	4 2229 72966	Potentiometer (B-5k)	1
P201	4 2229 72966	Potentiometer (B-5k)	1
Q101	203 5 5100 53650	Transistor, 2SC536	1
Q201	203 5 5100 53650	Transistor, 2SC536	1
R1	RP3 3 2121 JH000	Pretty 3.3k ohm 1/8W ±5%	1
R2	RP6 8 2121 JH000	Pretty 6.8k ohm 1/8W ±5%	1
R3	RP4 7 3121 JH000	Pretty 47k ohm 1/8W ±5%	1
R101	RD5 6 1251 JS000	Carbon 560 ohm 1/4W ±5%	1
R102	RP3 3 2121 JH000	Pretty 3.3k ohm 1/8W ±5%	1
R103	RP5 6 2121 JH000	Pretty 5.6k ohm 1/8W ±5%	1
R104	RP3 3 3121 JH000	Pretty 33k ohm 1/8W ±5%	1
R105	RP3 9 3121 JH000	Pretty 39k ohm 1/8W ±5%	1
R106	RP4 7 3121 JH000	Pretty 47k ohm 1/8W ±5%	1
R107	RP4 7 3121 JH000	Pretty 47k ohm 1/8W ±5%	1
R108	RP4 7 3121 JH000	Pretty 47k ohm 1/8W ±5%	1
R109	RP2 2 2121 JH000	Pretty 2.2k ohm 1/8W ±5%	1
R110	RP3 9 3121 JH000	Pretty 39k ohm 1/8W ±5%	1
R201	RD5 6 1251 JS000	Carbon 560 ohm 1/4W ±5%	1
R202	RP3 3 2121 JH000	Pretty 3.3k ohm 1/8W ±5%	1
R203	RP5 6 2121 JH000	Pretty 5.6k ohm 1/8W ±5%	1
R204	RP3 3 3121 JH000	Pretty 33k ohm 1/8W ±5%	1
R205	RP3 9 3121 JH000	Pretty 39k ohm 1/8W ±5%	1
R206	RP4 7 3121 JH000	Pretty 47k ohm 1/8W ±5%	1
R207	RP4 7 3121 JH000	Pretty 47k ohm 1/8W ±5%	1
R208	RP4 7 3121 JH000	Pretty 47k ohm 1/8W ±5%	1
R209	RP2 2 2121 JH000	Pretty 2.2k ohm 1/8W ±5%	1
R210	RP3 9 3121 JH000	Pretty 39k ohm 1/8W ±5%	1
	141 2 4729 05000	Staple 5	7
	141 2 4729 04700	Staple 10	2
<b>GOVERNOR P.C.B. ASSY</b>			
	4 2869 70520	Governor P.C.B. Assy	1
	141 2 4729 04700	Staple 10	2
	141 2 4729 05000	Staple 5	3
CN14	4 2369 71581	Connector 5P	1
P701	4 2229 73520	Potentiometer (B-500)	1
P702	4 2229 73360	Potentiometer (B-30k)	1
C701	CD1 0 5500 0001V	Electrolytic 1 μF 50V	1
C702	CI1 0 4250 KF00C	Boundary 0.1 μF 25V ±10%	1
C703	CI1 0 4250 KF00C	Boundary 0.1 μF 25V ±10%	1
C704	CD2 2 7100 0001V	Electrolytic 220 μF 10V	1
C705	CI2 7 2250 KE00C	Boundary 0.0027 μF 25V ±10%	1
C706	CI2 7 2250 KE00C	Boundary 0.0027 μF 25V ±10%	1
C708	CA3 3 4100 M000V	Aluminum 0.33 μF 10V ±20%	1
C709	CD1 0 6160 0001V	Electrolytic 10 μF 16V	1
C710	CI1 0 4250 KF00C	Boundary 0.1 μF 25V ±10%	1
D701	202 5 2300 01910	Diode, DS19	1
IC701	206 5 1555 51210	IC, LA5512	1
IC702	206 5 2491 60110	IC, LB1601	1
Q701	203 5 4580 69850	Transistor, 2SB698	1
Q702	203 5 4580 69850	Transistor, 2SB698	1
Q703	203 5 4570 73450	Transistor, 2SD734	1
Q704	203 5 4570 73450	Transistor, 2SD734	1
Q705	203 5 4580 69850	Transistor, 2SB698	1
Q706	203 5 5000 53650	Transistor, 2SC536	1
Q707	203 5 5000 53650	Transistor, 2SC536	1
Q708	203 5 5000 53650	Transistor, 2SC536	1
Q709	203 5 5000 53650	Transistor, 2SC536	1
Q710	203 5 7200 60850	Transistor, 2SA608	1
R701	RD3 3 1251 JN000	Carbon 330 ohm 1/4W ±5%	1
R702	RD3 3 1251 JN000	Carbon 330 ohm 1/4W ±5%	1
R703	RD5 6 1251 JN000	Carbon 560 ohm 1/4W ±5%	1
R704	RD8 2 1251 JN000	Carbon 820 ohm 1/4W ±5%	1
R705	RD8 2 1251 JN000	Carbon 820 ohm 1/4W ±5%	1
R706	RD3 3 2251 JN000	Carbon 3.3k ohm 1/4W ±5%	1
R707	RD3 3 2251 JN000	Carbon 3.3k ohm 1/4W ±5%	1
R708	RD3 3 2251 JN000	Carbon 3.3k ohm 1/4W ±5%	1
R709	RD3 9 1251 JN000	Carbon 390 ohm 1/4W ±5%	1
R710	RD1 0 4251 JN000	Carbon 100k ohm 1/4W ±5%	1

Ref. No.	Part No.	Description	Q'ty
<b>GOVERNOR P.C.B. ASSY</b>			
R711	RD4 7 2251 JN000	Carbon 4.7k ohm 1/4W ±5%	1
R712	RD1 0 1251 JN000	Carbon 100 ohm 1/4W ±5%	1
R713	RD1 0 2251 JN000	Carbon 1k ohm 1/4W ±5%	1
R714	RD9 1 3251 JN000	Carbon 91k ohm 1/4W ±5%	1
R715	RD4 7 4251 JN000	Carbon 470k ohm 1/4W ±5%	1
R716	4 2219 70220	Resistor 680 ohm 1/4W	1
<b>MECHANISM</b>			
S9	4 2319 74570	Leaf Switch (Interlock)	1
S10	4 2319 74570	Leaf Switch (Eject)	1
CN3	4 2359 75135	Connector 6P Assy	1
CN9	4 2359 75243	Connector 3P Assy	1
SL1	4 2649 70420	Solenoid (Slide Base)	1
SL2	4 2649 70430	Solenoid (Brake)	1
M1	4 5279 71011	Motor (Capstan)	1
M2	4 5279 70851	Motor (Reel)	1
PL1	4 6129 70203	Lamp (Cassette)	1
	141 0 1249 17100	Cassette Plate Assy	1
	141 0 3119 18800	Chassis Assy	1
	141 0 3519 18700	Reel Plate Assy	1
	141 0 3519 18800	Cassette Lid Bracket Assy	1
	141 0 5219 07300	Flywheel Assy	1
	141 0 5419 03100	Pinch Roller Assy	1
	141 0 5519 07700	Idler Support Assy	1
	141 0 5559 05900	Idler Arm Assy	1
	141 0 5729 04000	Capstan Holder Assy	1
	141 0 7319 21600	Brake Plate Assy	1
	141 0 7319 23800	Completed Slide Base	1
HD1	4 2429 71740	R/P Head	1
HD2	4 2429 71750	Erase Head	1
	101 3 1302 01411	Screw, Pan Hd. +M2.0x14	1
	101 3 2502 00611	Screw, Cylinder Hd. -M2.0x6	1
	112 3 1302 00082	E Ring M2.0	1
	115 3 1402 00511	Screw, Slotted Head +M2.0x5	2
	127 3 1317 03013	PC Screw, Pan Hd. +M1.7x3	2
	141 0 7319 21500	Slide Base Assy	1
	141 2 3759 03300	Head Base	1
	141 2 3759 03400	Head Base	1
	141 2 4219 02900	Screw M2.0x4	3
	141 2 4729 03600	Lug	1
	141 2 8259 08700	Roller Base Stopper	1
	141 2 8519 95200	Spring, Azimuth	1
	141 0 7419 27200	Hold Lever Base Assy	1
	141 0 7419 27300	Brake Lever Assy	1
	141 0 7419 27500	Cassette Hold Lever Assy	1
	141 0 7419 27600	Cassette Hold Lever Assy	1
	141 0 7439 09100	Lock Plate Stopper Assy	1
	141 2 1249 24700	Cassette Lid Frame	1
	141 2 1569 03100	Decorative Button	1
	141 2 3519 51400	Bracket	1
	141 2 3519 51900	Cassette Holder, Right	1
	141 2 3519 52000	Cassette Holder, Left	1
	141 2 3519 52200	Bracket	1
	141 2 3519 53000	Switch Bracket	1
	141 2 3519 53100	Switch Bracket	1
	141 2 3529 16700	Spacer	2
	141 2 3529 28100	Damper Plate	1
	141 2 3749 07600	Lamp Holder	1
	141 2 3789 07000	Motor Cushion	3
	141 2 3789 07100	Spacer, Motor	3
	141 2 4219 02900	Screw M2.0x4	3
	141 2 4219 03000	Screw M2.0x3	1
	141 2 4219 10300	Screw, Flywheel Support	1
	141 2 4459 18900	Motor Cushion	1
	141 2 4459 25300	Shoe Brake	2
	141 2 4539 12100	Washer, Spindle	2
	141 2 4539 17600	Washer	1
	141 2 4539 23100	Washer	2
	141 2 4579 04100	Roller	2
	141 2 4579 04300	Spacer	2

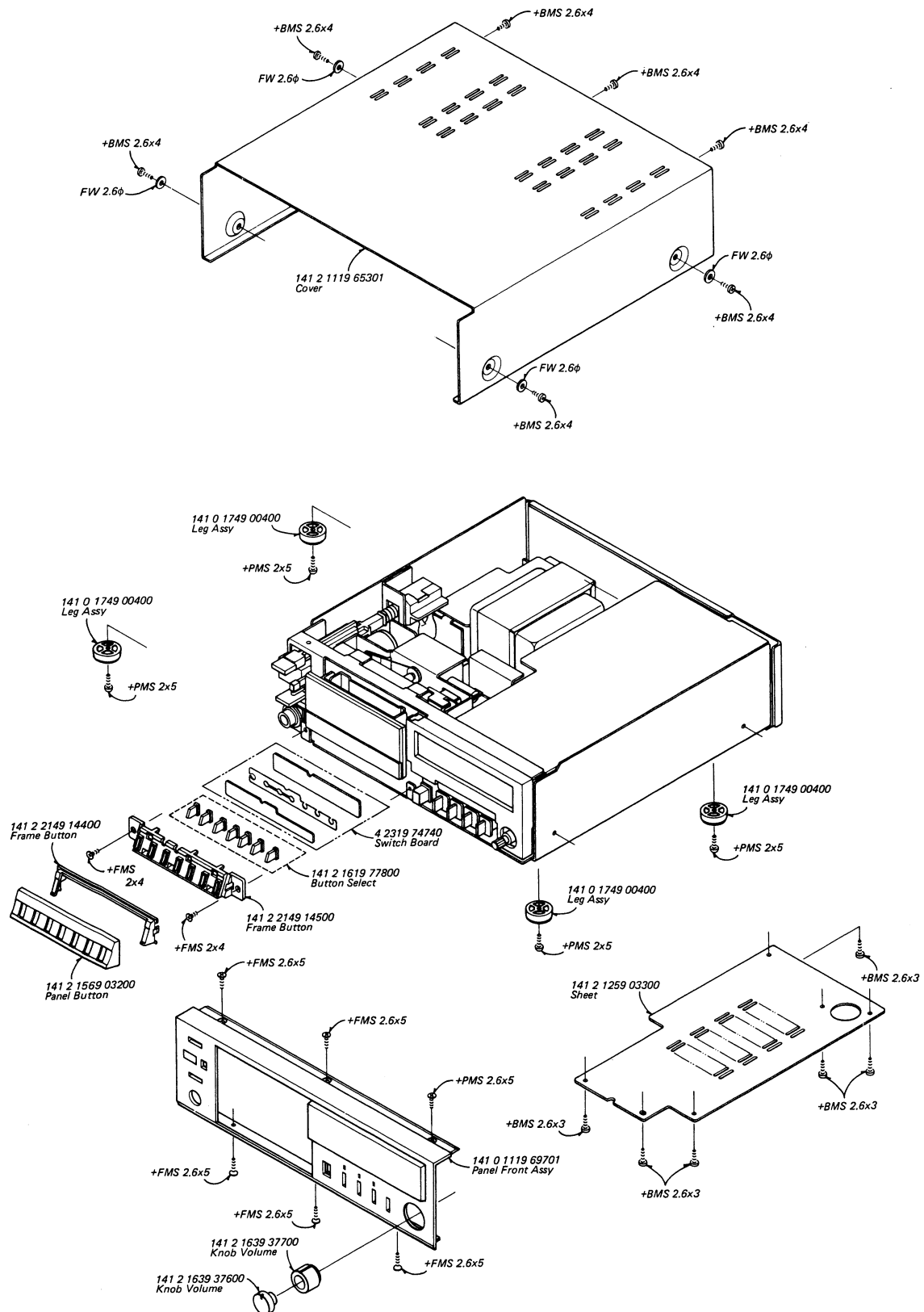
## PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
<b>MECHANISM</b>			
	141 2 4619 06800	Spacer	3
	141 2 4729 03600	Lug	1
	141 2 5319 10100	Disk Reel	2
	141 2 5319 10200	Hub	2
	141 2 5519 37600	Idler	1
	141 2 5519 37700	Disk Stopper Spring	1
	141 2 5519 37900	Eject Gear	1
	141 2 5519 38000	Gear	1
	141 2 5619 01300	Drive Belt	1
	141 2 5649 16100	Belt	1
	141 2 5649 16200	Counter Belt	1
	141 2 7419 69800	Slide Base Lever	1
	141 2 7419 69900	Slide Base Lever	1
	141 2 7419 70000	Interlock Lever	1
	141 2 7419 70100	Eject Lever	1
	141 2 7519 52000	Cassette Holder Post	1
	141 2 7529 97300	Fix Cassette Post	1
	141 2 7529 97500	Pin Plunger	1
	141 2 7529 99000	Eject Lever Post	1
	141 2 7529 99300	Gear Post	1
	141 2 8119 08500	Counter	1
	141 2 8259 08000	Ball	1
	141 2 8259 08600	Roller	1
	141 2 8519 69000	Spring, Eject Lever	1
	141 2 8519 94800	Spring, Brake Lever	1
	141 2 8519 94900	Spring, Pinch Roller	1
	141 2 8519 95000	Spring, Plunger	1
	141 2 8519 95300	Spring, Slide Base	1
	141 2 8519 95400	Spring, Idler	1
	141 2 8519 95500	Spring, Hold Base	1
	141 2 8519 95600	Spring, Push Idler	1
	141 2 8519 96500	Spring, Gear	1
	141 2 8519 98300	Spring, Reel	2
	141 2 8539 39000	Spring, Cassette	1
	141 2 8539 39100	Spring, Slide Base	1
	141 2 8539 39400	Spring, Cassette	1
	141 2 8539 39500	Spring, Cassette	1
	141 2 8549 03100	Spring, Cassette Lid	1
	141 2 8549 03300	Spring, Stopper Lever	1
	141 2 8549 04500	Spring, Eject	1
	101 3 1202 00411	Screw, Flat Hd. +M2.0x4	1
	101 3 1302 00211	Screw, Pan Hd. +M2.0x2	4
	101 3 1302 00311	Screw, Pan Hd. +M2.0x3	2
	101 3 1302 00411	Screw, Pan Hd. +M2.0x4	2
	101 3 1302 60411	Screw, Pan Hd. +M2.6x4	2
	101 3 1302 60811	Screw, Pan Hd. +M2.6x8	1
	101 3 1702 00311	Screw, Bind Hd. +M2.0x3	5
	101 3 1702 00411	Screw, Bind Hd. +M2.0x4	4
	101 3 1702 00511	Screw, Bind Hd. +M2.0x5	6
	101 3 1702 60411	Screw, Bind Hd. +M2.6x4	6
	101 3 1703 00411	Screw, Bind Hd. +M3.0x4	2
	103 3 1302 00511	Screw, Pan Hd. Tapping-2 +M2.0x5	1
	110 3 9210 60025	Washer M2.1x5.0x0.2	1
	112 3 1301 20082	E Ring M1.2	10
	112 3 1301 50082	E Ring M1.5	8
	112 3 1302 00082	E Ring M2.0	2
	127 3 1317 03013	PC Screw, Pan Hd. +M1.7x3	1
	127 3 1317 04013	PC Screw, Pan Hd.-1 +M1.7x4	2
	128 3 1317 02518	PC Screw, Pan Hd.-3 +M1.7x2.5	4
	128 3 1317 03013	PC Screw, Pan Hd.-3 +M1.7x3.0	2

- NOTES: 1. Parts order must contain Model Number, Part Number and Description.  
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.  
3. PC Screw = Precision Instrument Screw

# EXPLODED VIEW

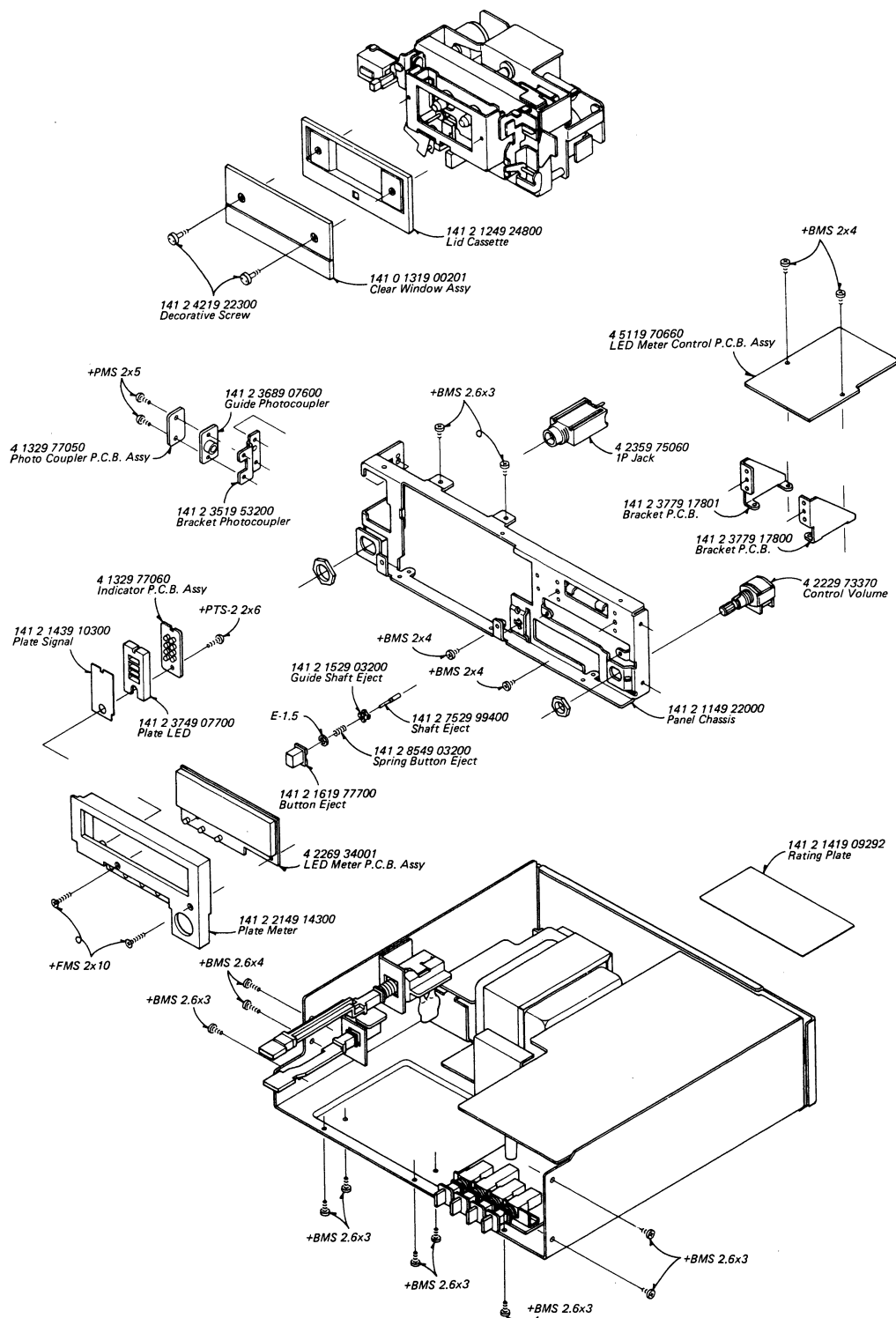
(Cabinet)





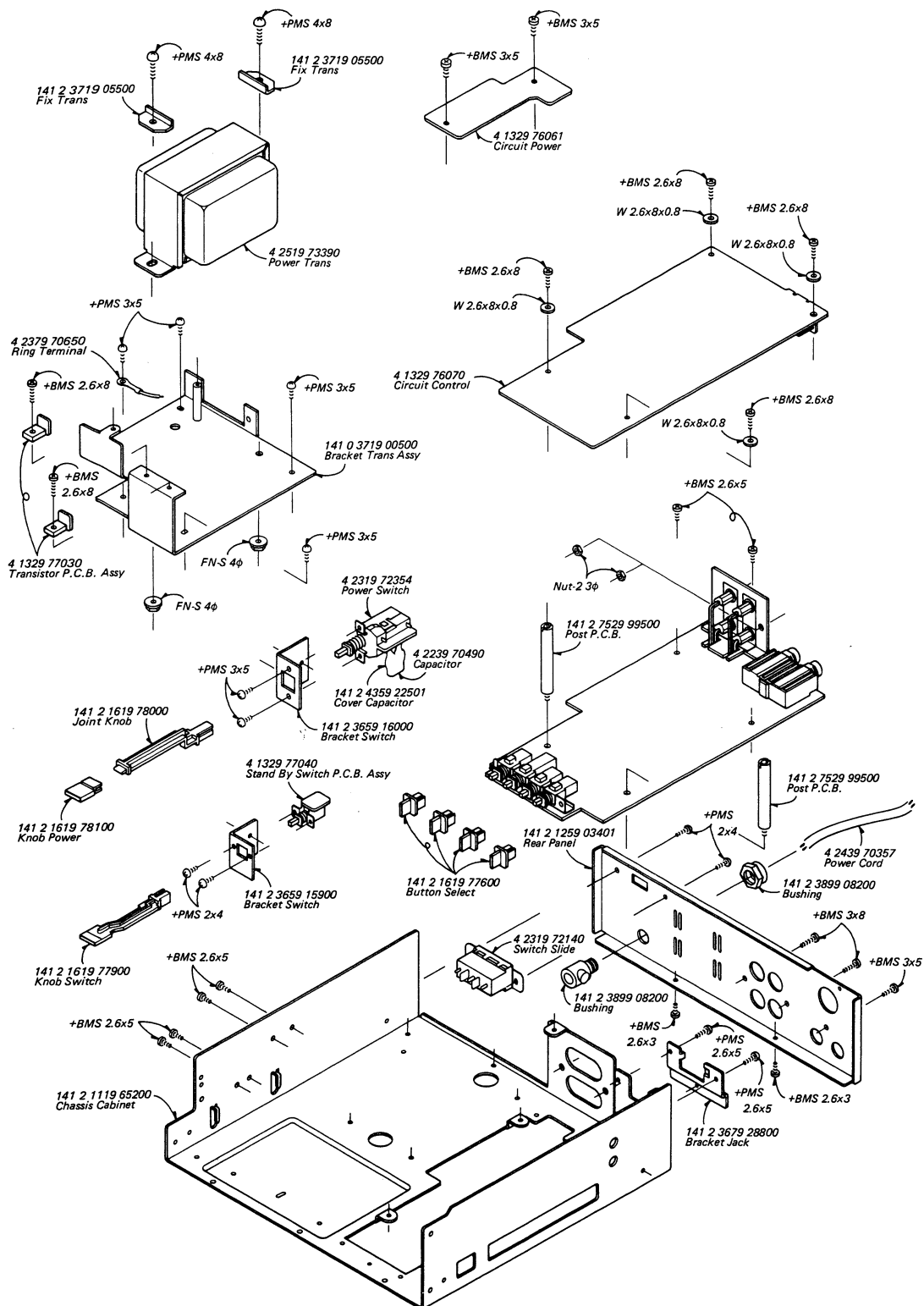
# EXPLODED VIEW (Continued)

(Chassis A)



## EXPLODED VIEW (Continued)

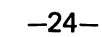
**(Chassis B)**



**(Chassis C)**



**(Chassis D)**



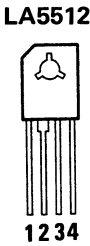
**(Chassis E)**



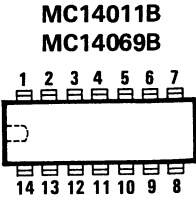
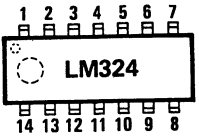
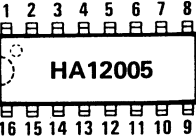
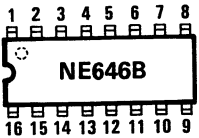
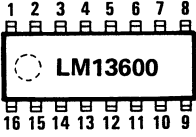
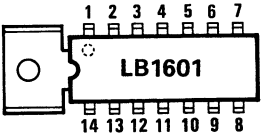
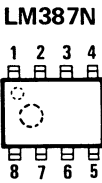
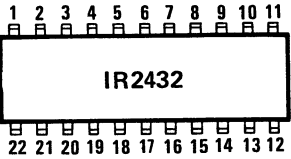
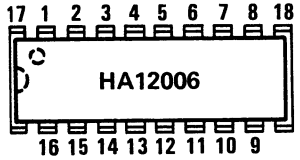
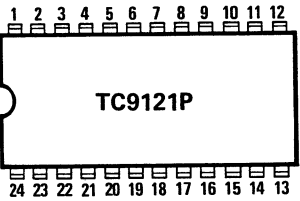
# IC & TRANSISTOR LEAD IDENTIFICATION

FRONT VIEW	BOTTOM VIEW	TRANSISTOR & PHOTOCOUPLER
		2SD1012
		2SA1015 2SB598 2SA608 2SB698 2SC536 2SC1815 2SD734
		2SC1846
		2SD400
		NJL5141
<b>TERMINAL NAMES</b>		
B⇒ BASE                      C⇒ COLLECTOR E⇒ EMITTER                K⇒ CATHODE A⇒ ANODE		

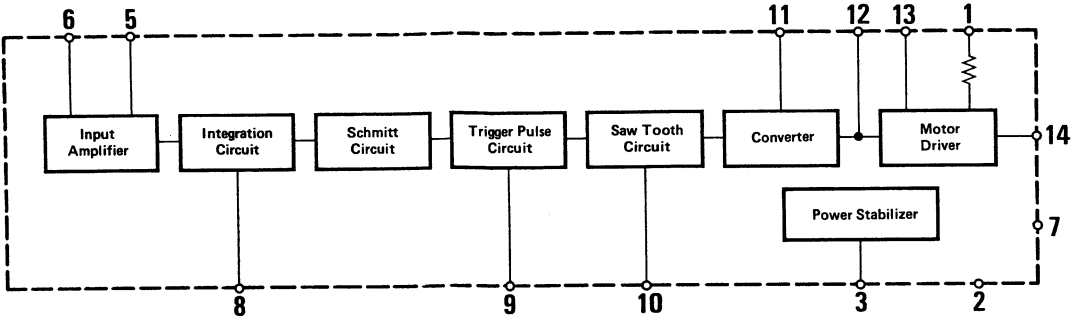
IC FRONT VIEW



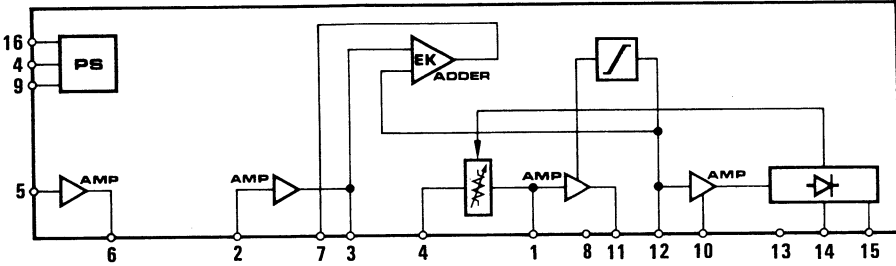
IC BOTTOM VIEW



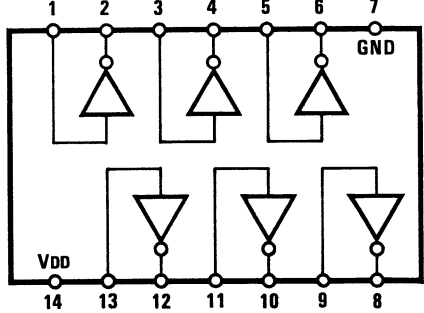
IC LB1601 BLOCK DIAGRAM



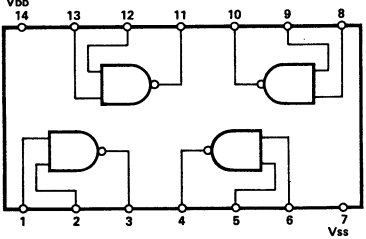
IC NE646B BLOCK DIAGRAM



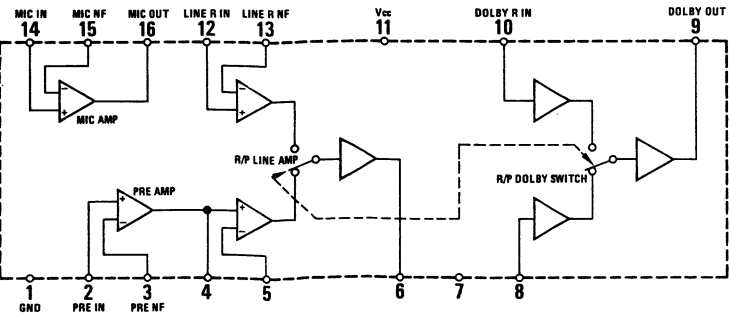
IC MC14069B BLOCK DIAGRAM



IC MC14011B BLOCK DIAGRAM

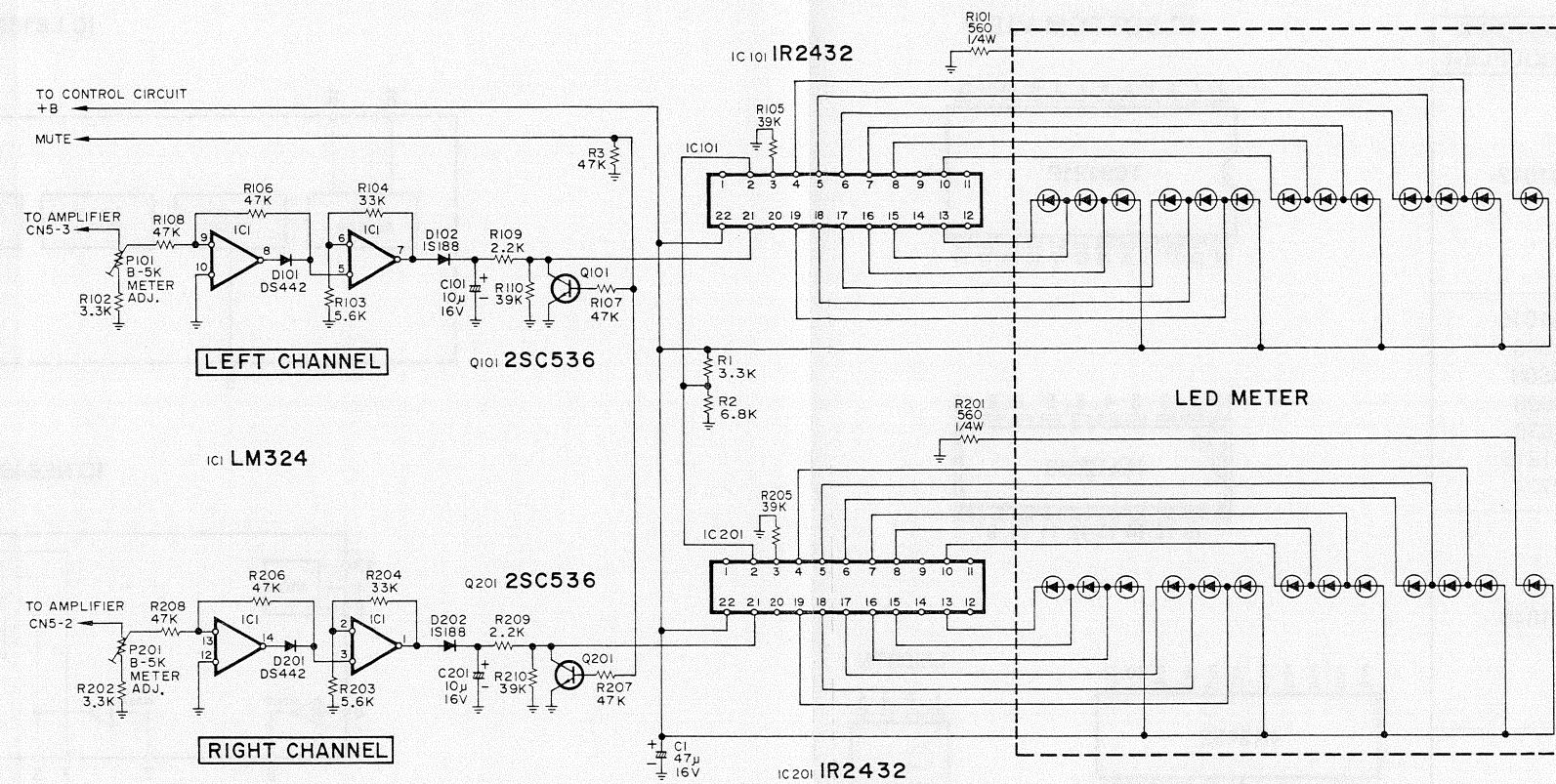


IC HA12005 BLOCK DIAGRAM



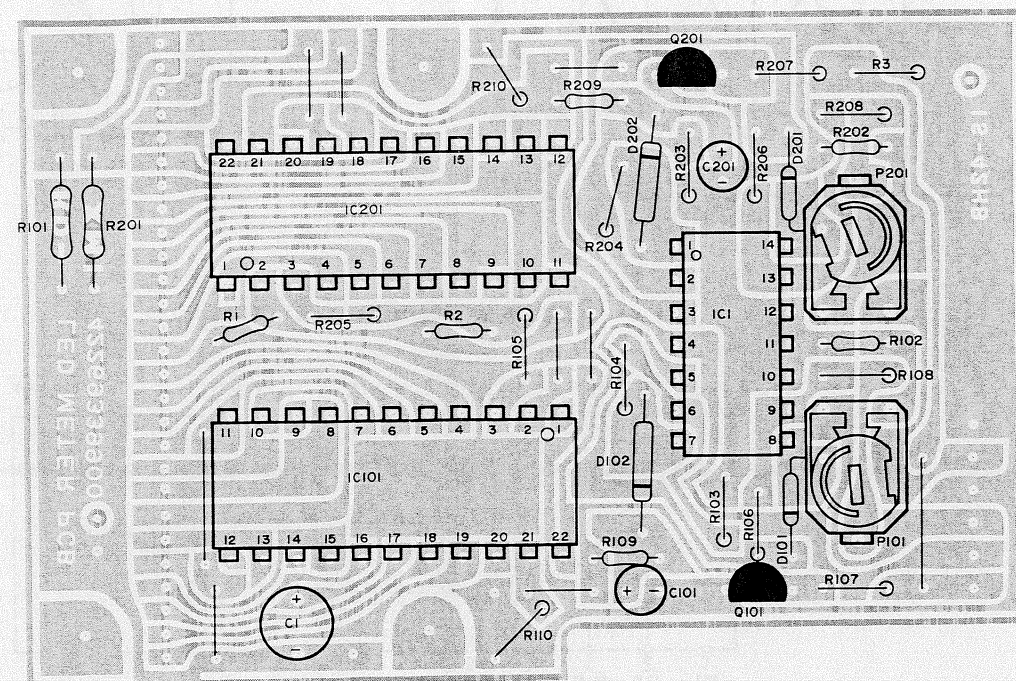


## LED PEAK LEVEL METER SCHEMATIC DIAGRAM

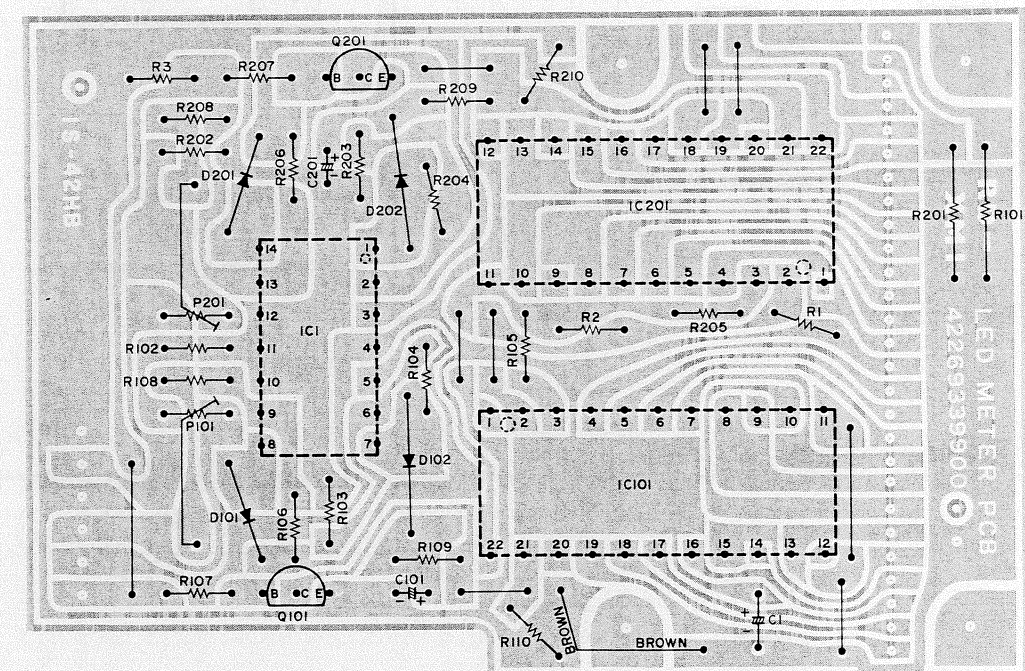


## LED METER P.C.BOARD

(Top View)



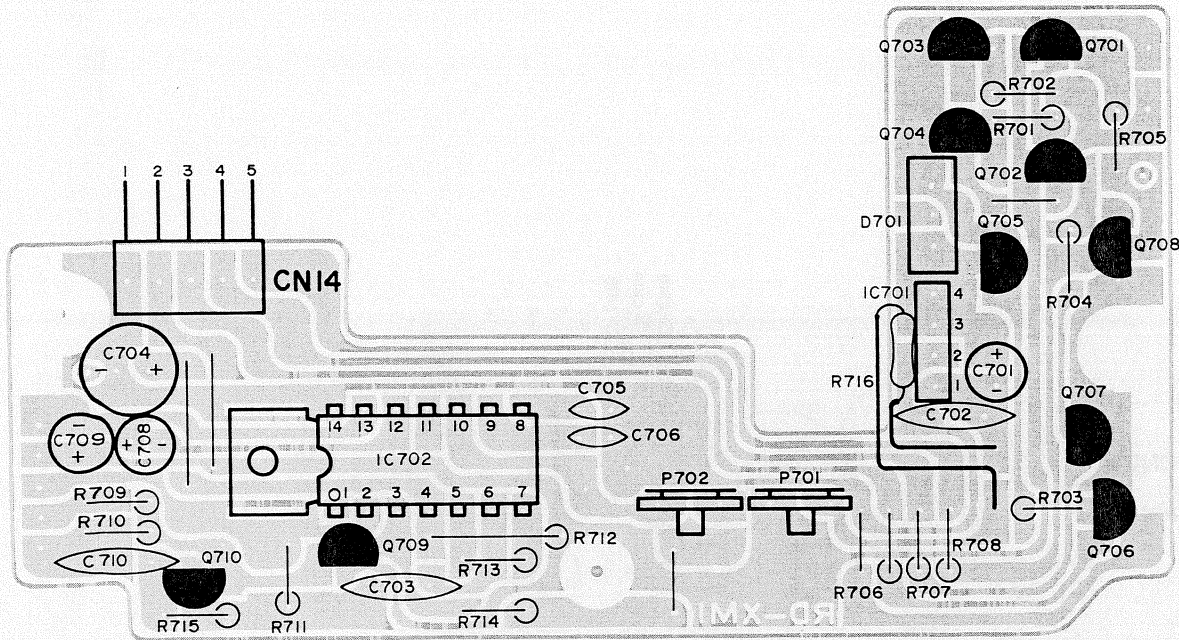
(Bottom View)



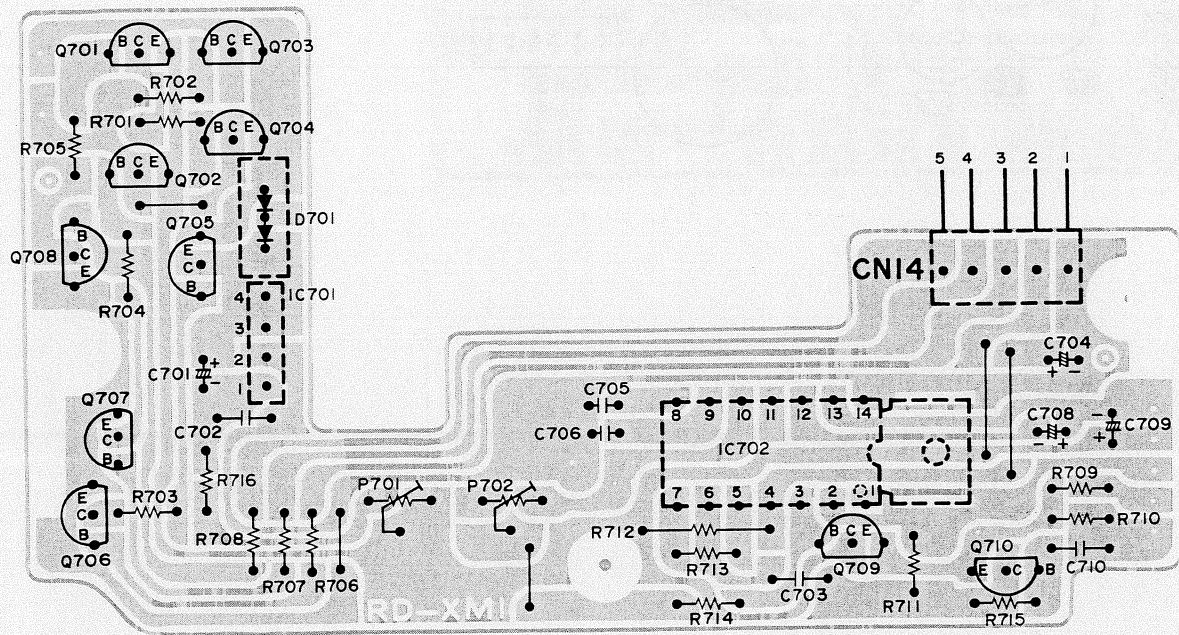


# MOTOR GOVERNOR P.C.BOARD

(Top View)

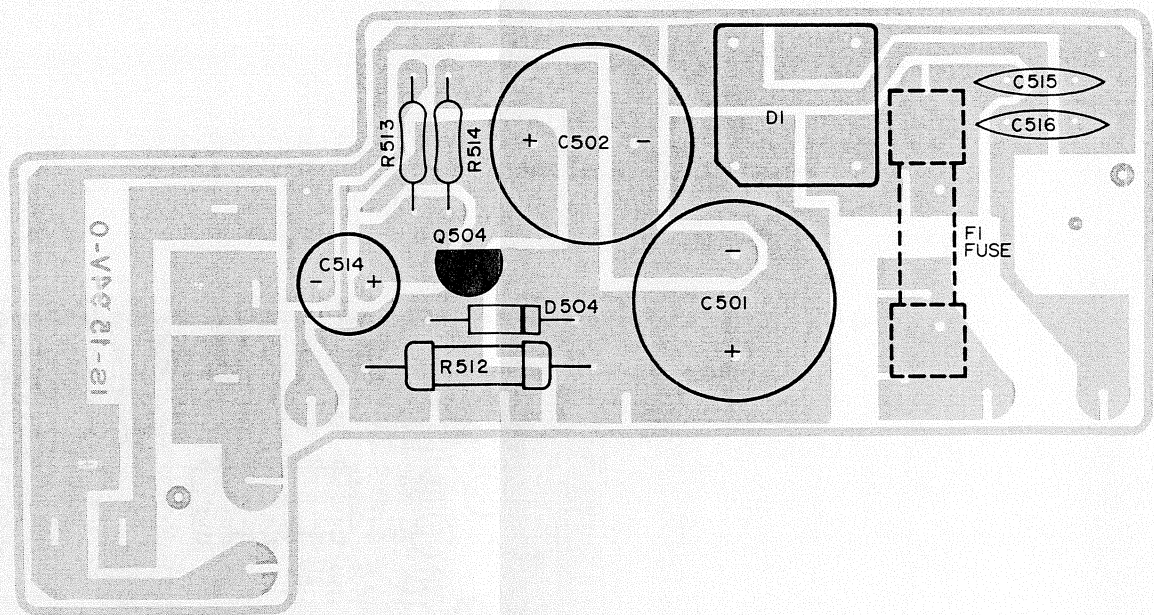


(Bottom View)

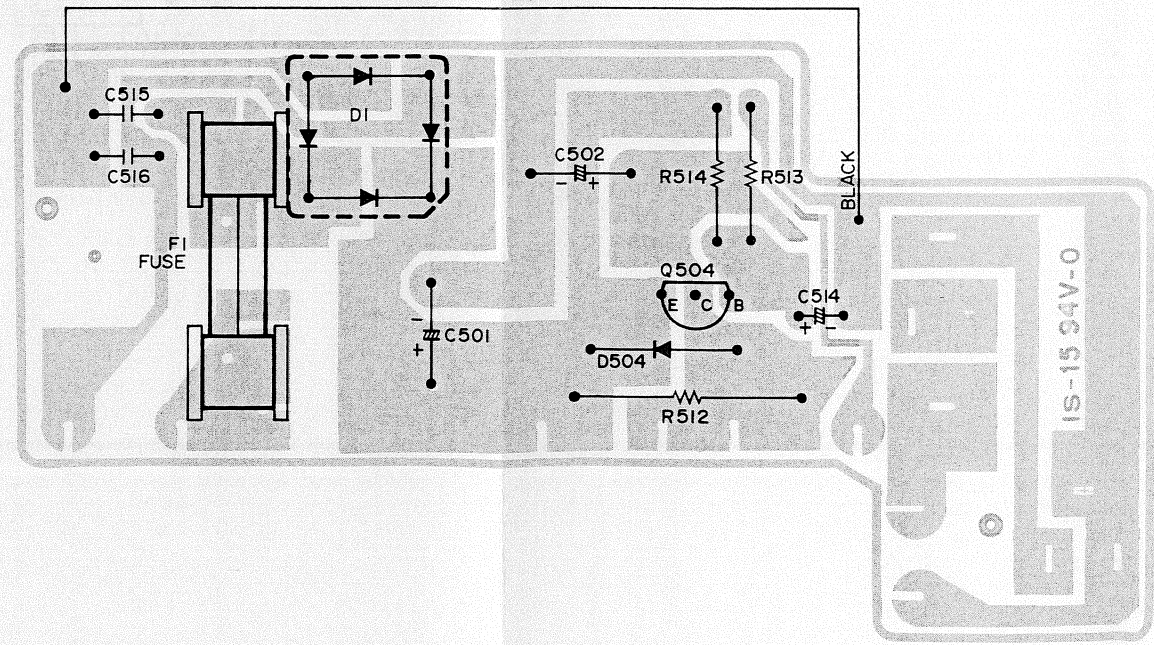


# POWER SUPPLY P.C.BOARD

(Top View)

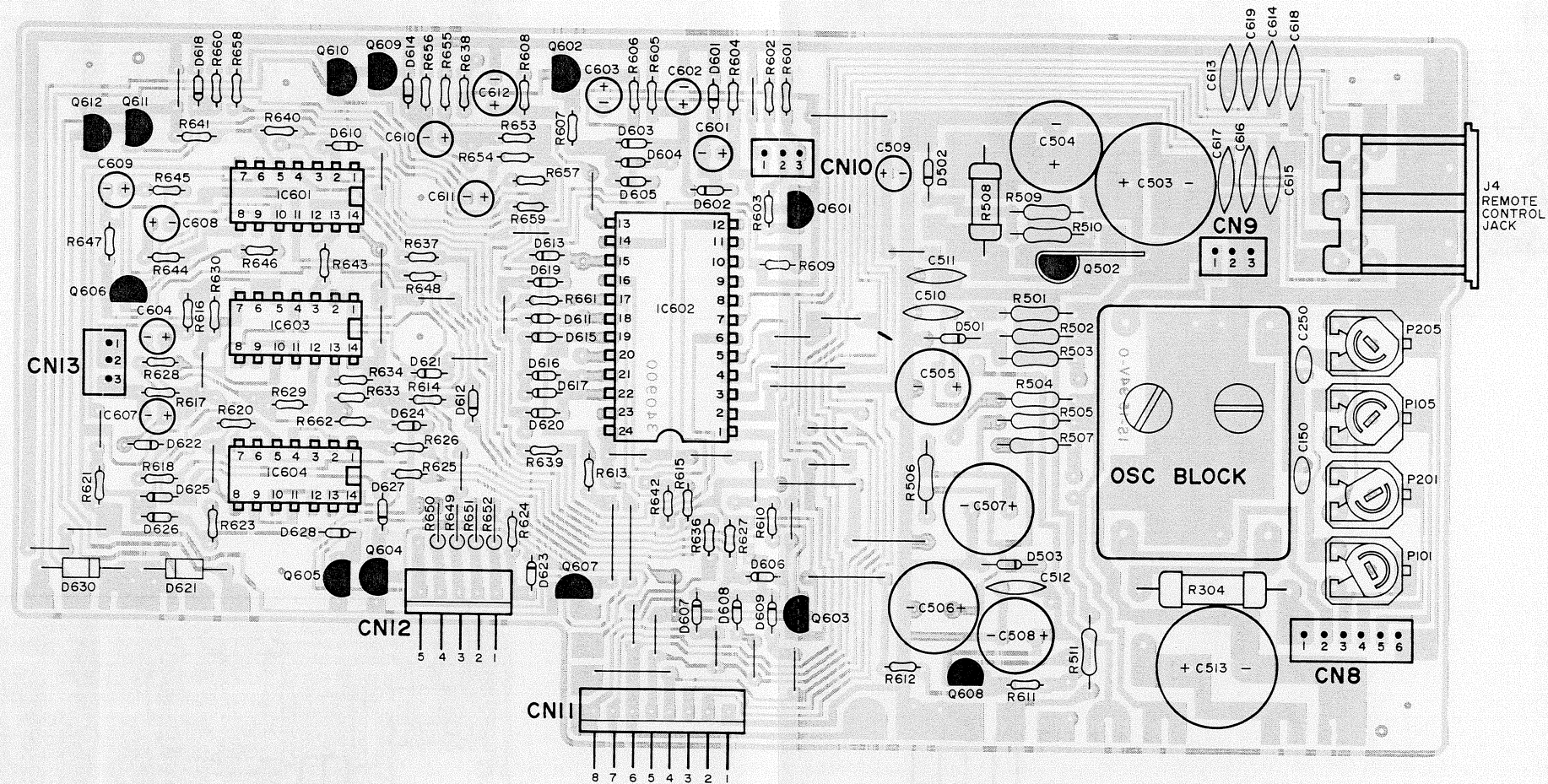


(Bottom View)



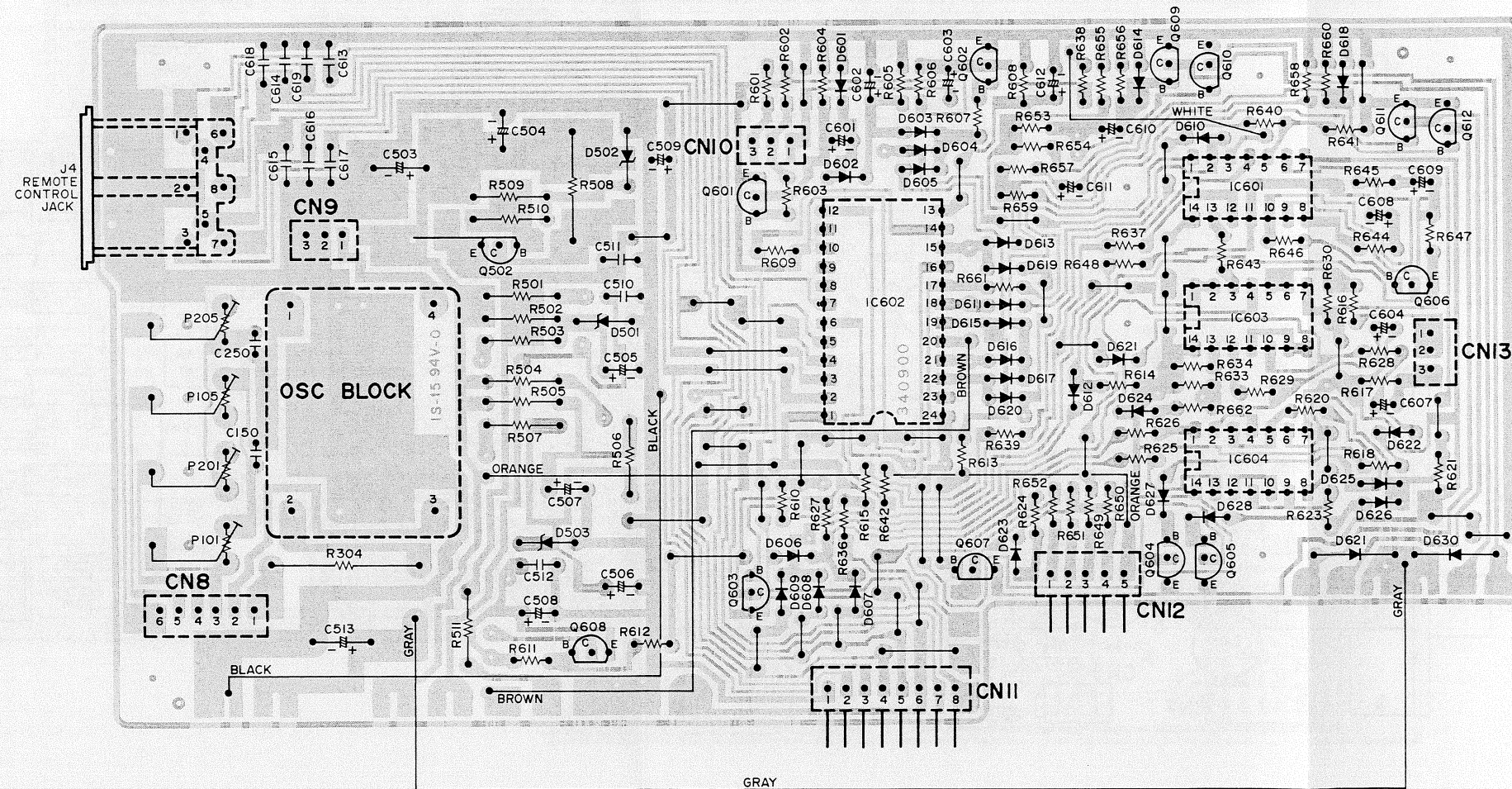


# CONTROL P.C.BOARD(Top View)



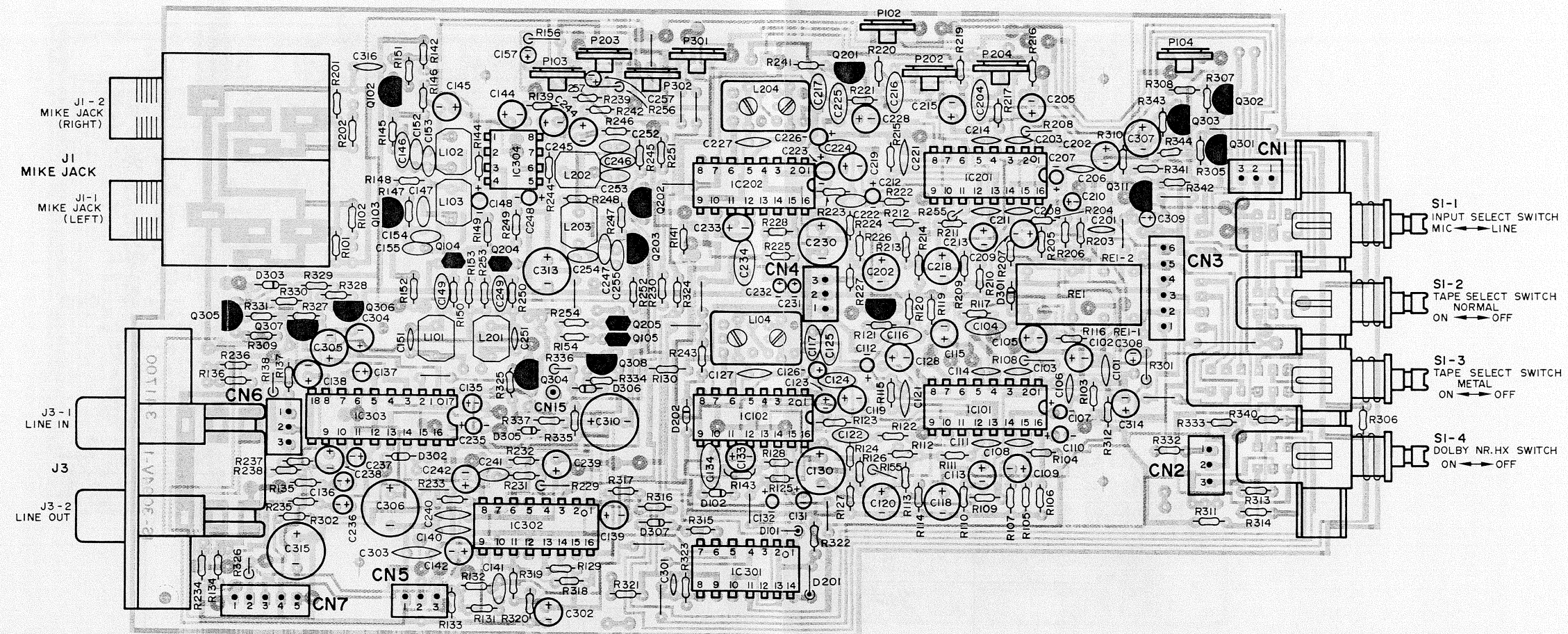


# CONTROL P.C.BOARD(Bottom View)



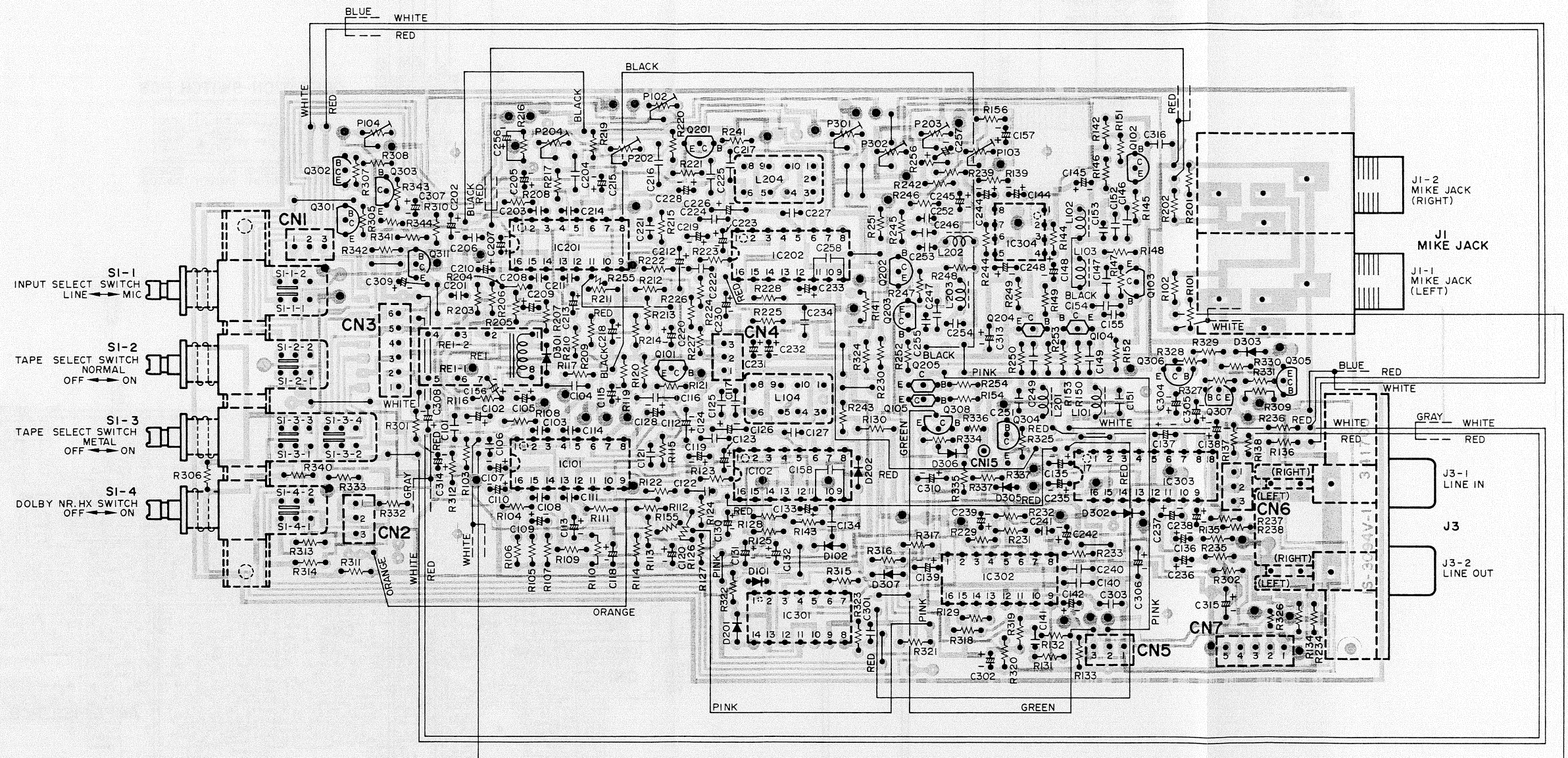


# AMPLIFIER BASE P.C.BOARD (Top View)



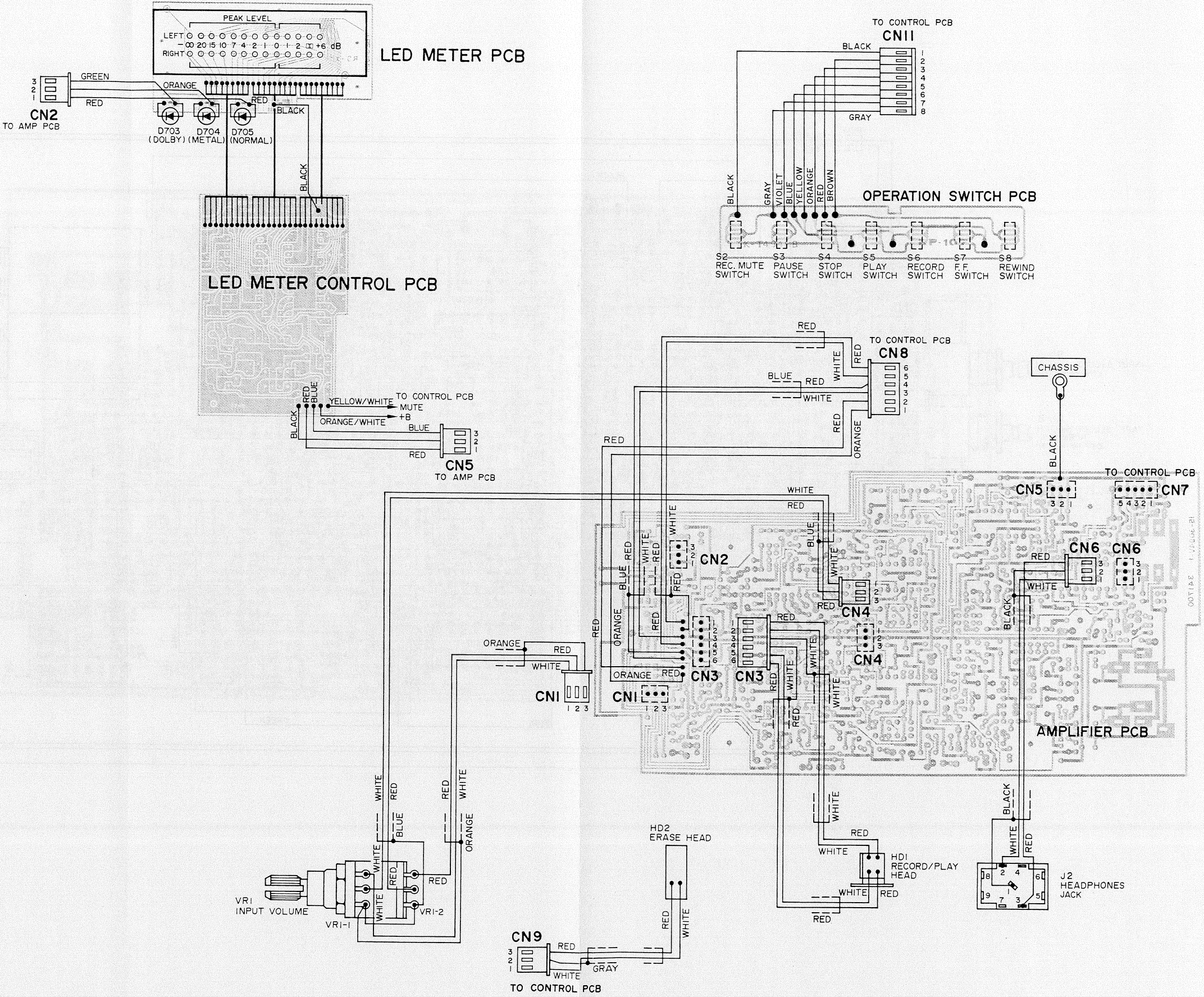


# AMPLIFIER BASE P.C.BOARD(Bottom View)



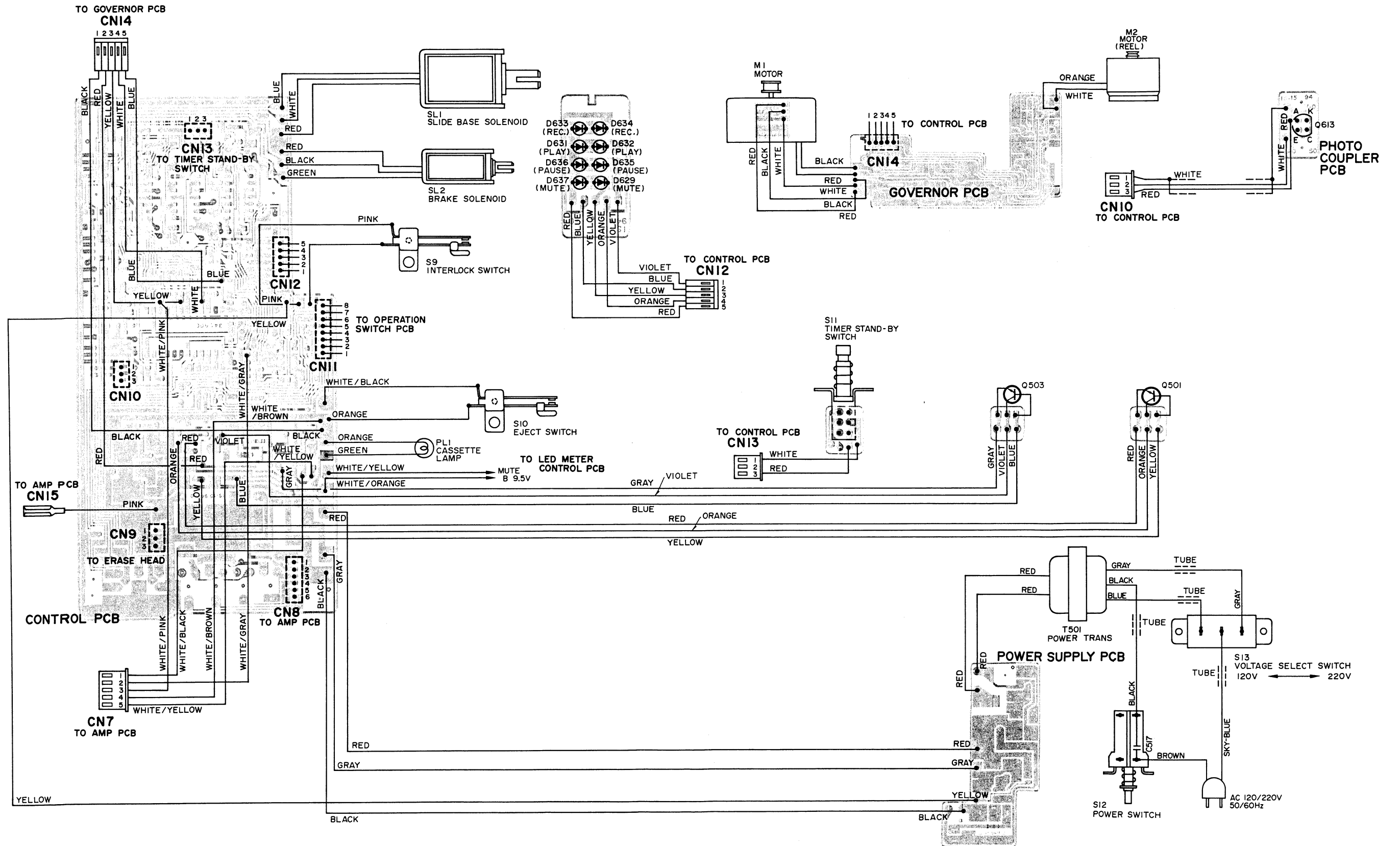


WIRING DIAGRAM(Amplifier Section)

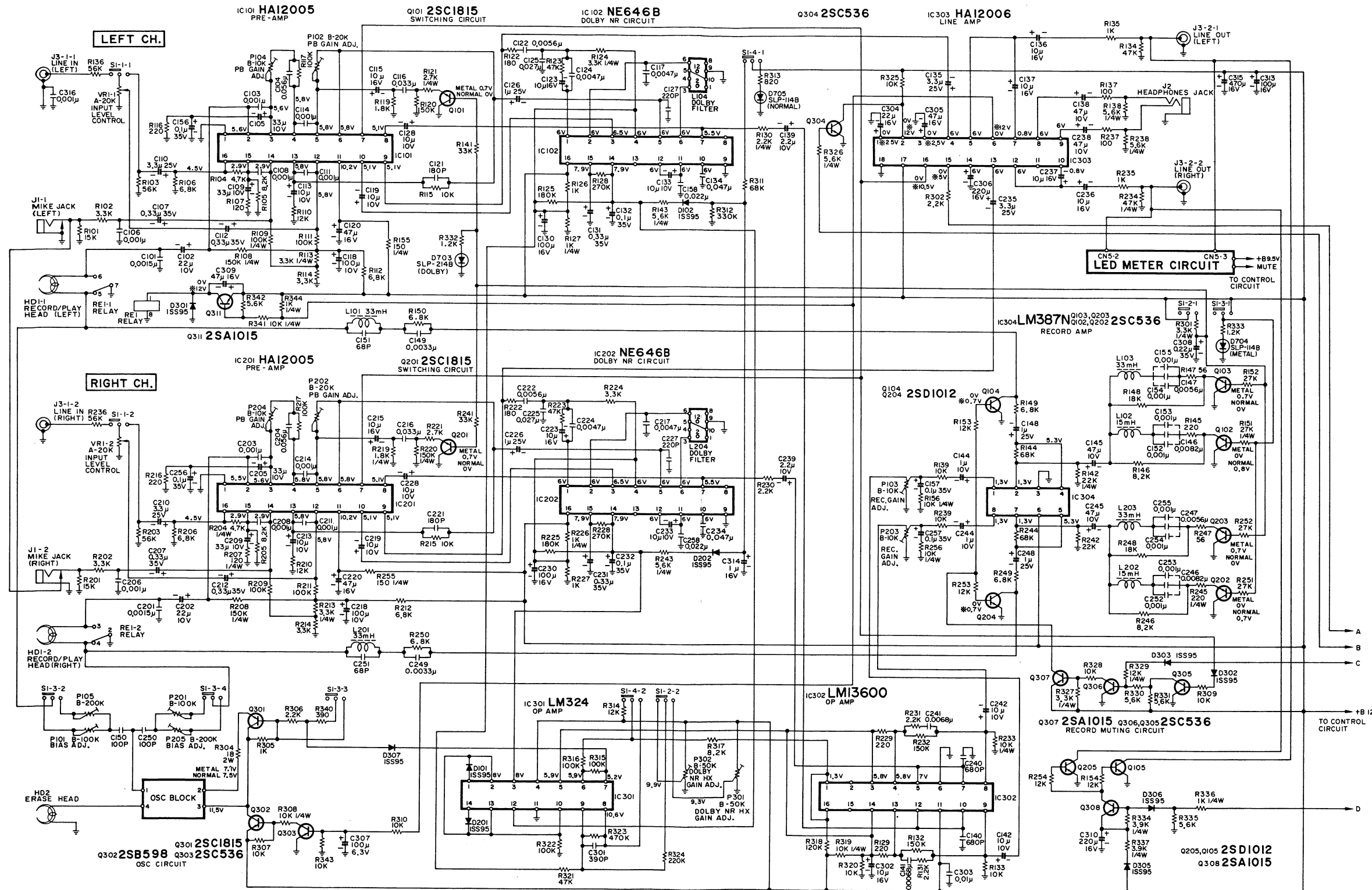




# WIRING DIAGRAM(Control Section)

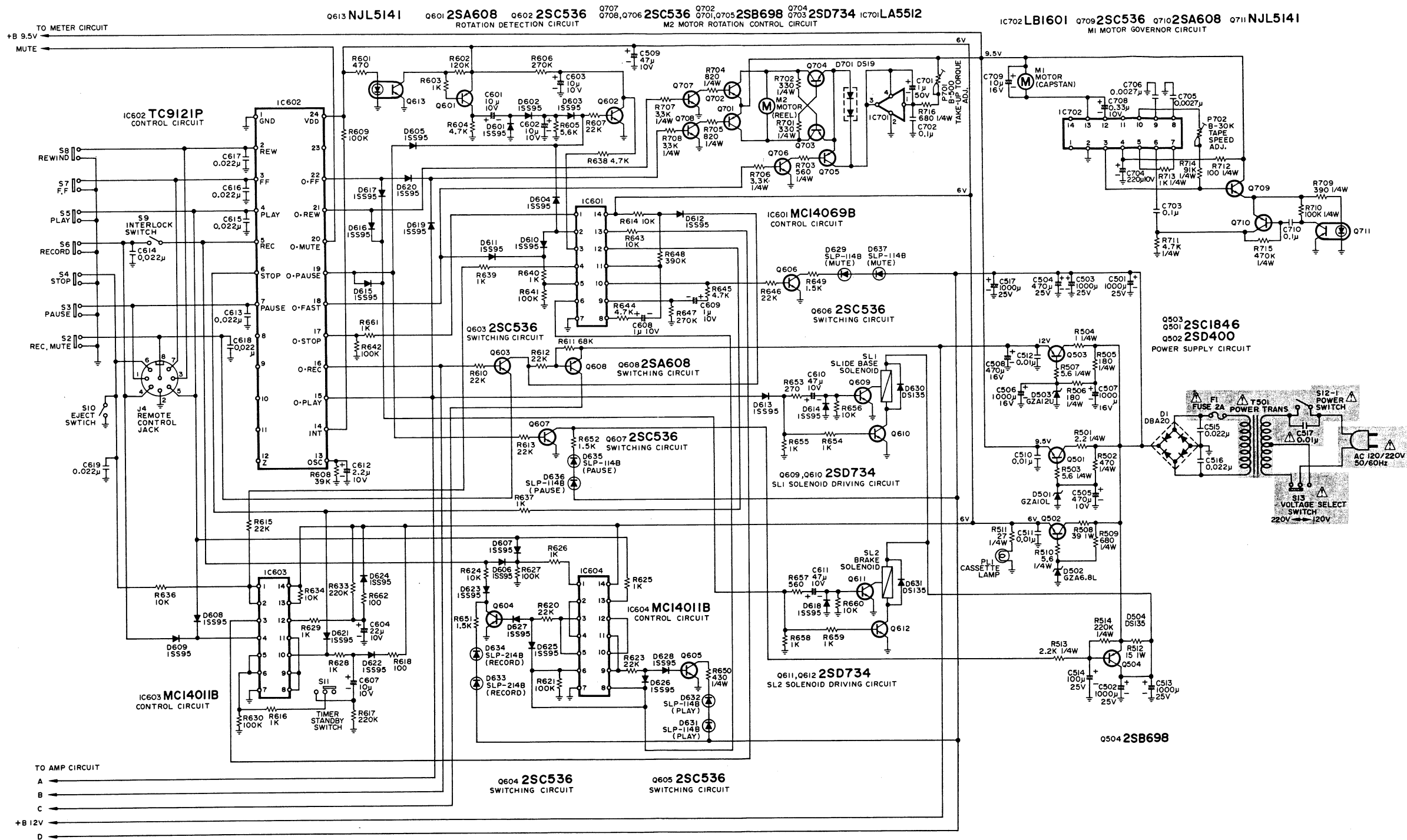


# SCHEMATIC DIAGRAM(Amplifier Section)




No.	Name	Position	No.	Name	Position	No.	Name	Position
S1-1	INPUT SELECT Switch	LINE	S4	STOP Switch	OFF	S10	EJECT Switch	OFF
S1-2	TAPE SELECT Switch (NORMAL)	OFF	S5	PLAY Switch	OFF	S11	TIMER STANDBY Switch	OFF
S1-3	TAPE SELECT Switch (METAL)	OFF	S6	RECORD Switch	OFF	S12	POWER Switch	OFF
S1-4	DOLBY NR-HX Switch	OFF	S7	F FWD Switch	OFF	S13	VOLTAGE SELECT Switch	220V
S2	RECORD MUTE Switch	OFF	S8	REWIND Switch	OFF			
S3	PAUSE Switch	OFF	S9	INTERLOCK Switch	OFF			

## SCHEMATIC DIAGRAM(Control Section)



## PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK  IN THIS SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE ATTACHED PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.